I hereby give notice that a hearing by commissioners will be held on:

Date:	**Monday 27 to Thursday 30 May and Tuesday 4 to Friday 7 June 2024** (Note: not all days may be required)
Time:	**9.30am**
Meeting Room:	**Council Chamber**
Venue:	**Level 1, West Annex,** **31-33 Manukau Station Road, Manukau**

TWO NOTICES OF REQUIREMENT FOR THE TAKAANINI LEVEL CROSSING (TLC) PROJECT AND FOUR NOTICES OF REQUIREMENT FOR THE SOUTH FREQUENT TRANSIT NETWORK (FTN) PROJECT

HEARING REPORT – VOLUME ONE

NOR 1 TAKAANINI LEVEL CROSSINGS (TLC) – SPARTAN ROAD, MANUIA ROAD, MANUROA ROAD AND TAKA STREET
NOR 2 TAKAANINI LEVEL CROSSINGS (TLC) – WALTERS ROAD LEVEL CROSSING CLOSURE AND NEW MULTI-MODAL BRIDGE

TE TUPU NGATAHI - SUPPORTING GROWTH ALLIANCE

Note: The reports contained within this document are for consideration and should not be construed as a decision of Council. Should commissioners require further information relating to any reports, please contact the hearings advisor.

COMMISSIONERS

Chairperson	**Dave Serjeant**
Commissioners	**Nigel Mark-Brown**
	Basil Morrison

Bevan Donovan
KAITOHUTOHU WHAKAWĀTANGA
HEARINGS ADVISOR

Telephone: 09 890 8056 or 021 325 837
Email: bevan.donovan@aucklandcouncil.govt.nz
Website: www.aucklandcouncil.govt.nz

Note: The reports contained within this document are for consideration and should not be construed as a decision of Council. Should commissioners require further information relating to any reports, please contact the hearings advisor.

WHAT HAPPENS AT A HEARING

Te Reo Māori and Sign Language Interpretation

Any party intending to give evidence in Māori or NZ sign language should advise the hearings advisor at least ten working days before the hearing so a qualified interpreter can be arranged.

Hearing Schedule

If you would like to appear at the hearing please return the appearance form to the hearings advisor by the date requested. A schedule will be prepared approximately one week before the hearing with speaking slots for those who have returned the appearance form. If changes need to be made to the schedule the hearings advisor will advise you of the changes.
Please note: during the course of the hearing changing circumstances may mean the proposed schedule may run ahead or behind time.

Cross Examination

No cross examination by the requiring authority or submitters is allowed at the hearing. Only the hearing commissioners are able to ask questions of the requiring authority or submitters. Attendees may suggest questions to the commissioners and they will decide whether or not to ask them.

The Hearing Procedure

The usual procedure for a hearing is:

- **the chairperson** will introduce the commissioners and will briefly outline the hearing procedure. The Chairperson may then call upon the parties present to introduce themselves. The Chairperson is addressed as Madam Chair or Mr Chairman.
- The Requiring Authority (the applicant) will be called upon to present their case. The Requiring Authority may be represented by legal counsel or consultants and may call witnesses in support of the application. After the Requiring Authority has presented their case, members of the hearing panel may ask questions to clarify the information presented.
- **Submitters** (for and against the application) are then called upon to speak. Submitters' active participation in the hearing process is completed after the presentation of their evidence so ensure you tell the hearing panel everything you want them to know during your presentation time. Submitters may be represented by legal counsel or consultants and may call witnesses on their behalf. The hearing panel may then question each speaker.
    - Late submissions: The council officer's report will identify submissions received outside of the submission period. At the hearing, late submitters may be asked to address the panel on why their submission should be accepted. Late submitters can speak only if the hearing panel accepts the late submission.
    - Should you wish to present written evidence in support of your submission please ensure you provide the number of copies indicated in the notification letter.
- **Council Officers** will then have the opportunity to clarify their position and provide any comments based on what they have heard at the hearing.
- The **requiring authority** or their representative then has the right to summarise the application and reply to matters raised. Hearing panel members may ask further questions. The requiring authority's s reply may be provided in writing after the hearing has adjourned.
- **The chairperson** will outline the next steps in the process and adjourn or close the hearing.
- The hearing panel will make a recommendation to the Requiring Authority. The Requiring Authority then has 30 working days to make a decision and inform council of that decision. You will be informed in writing of the Requiring Authority's decision, the reasons for it and what your appeal rights are.

SIX NOTIFIED NOTICES OF REQUIREMENT TO THE AUCKLAND COUNCIL UNITARY PLAN BY TE TUPU NGATAHI - SUPPORTING GROWTH ALLIANCE

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Joy LaNauzel, Reporting officer (Takaanini Level Crossing project)

Reporting on two Notices of Requirement for the Takaanini Level Crossing project

REQUIRING AUTHORITY: TE TUPU NGATAHI - SUPPORTING GROWTH ALLIANCE

Takaanini Level Crossing

NOR1 - SPARTAN ROAD, MANUIA ROAD, MANUROA ROAD AND TAKA STREET
Spartan Road, Manuia Road, Manuroa Road and Taka Street (NoR 1) Auckland Transport. Notice of requirement lodged by Auckland Transport for new multi-modal bridge crossings of the North Island Main Trunk (NIMT) at Manuia Road and Taka Street; and new active mode bridge crossings of the NIMT at Spartan Road and Manuroa Road with two consequential road closures.

NOR2 – WALTERS ROAD LEVEL CROSSING CLOSURE AND NEW MULTI-MODAL BRIDGE
Notice of requirement lodged by Auckland Transport for a new multi-modal bridge crossing of the North Island Main Trunk (NIMT) railway at Walters Road.

SUBMITTERS TAKAANINI LEVEL CROSSING - NOR1 – SPARTAN ROAD, MANUIA ROAD, MANUROA ROAD AND TAKA STREET	
The below submissions are contained in Volume Two	
Page 9	**Pam Scott Family Trust**
Page 11	**A1 Auto Panel and Paint**
Page 13	**Johnstone Properties Partnership**

Page 15	**Takanini Business Association Inc**
Page 24	**Brian Hogan**
Page 25	**Carter Building Supplies**
Page 27	**Portsmouth Family Trust**
Page 29	**Telecommunications Submitters**
Page 41	**Anil Kumar**
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Page 87	**DDI Takanni Investments Limited**
Page 89	**Dealership Properties Limited**
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Page 156	**Vertex Lubricants**
Page 160	**Durmast Holdings Ltd**
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Page 167	**Auckland Council Parks and Community Facilities**
Page 169	**Ministry of Education**
Page 173	**Takanini Village Limited and Tonea Properties (NZ) Limited**
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Page 189	**Mead Trusts Holdings Limited and Carters Buildings Supplies Limited**
Page 198	**Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited**
Page 207	**Watercare Services Limited**
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Page 225	**Kāinga Ora**

Page 243	**DR Levene & JAG Kearns & MA Levene & DW Tibby and EA Levene (The Levene Foundation)**
Page 245	**Basil Kuriakose Portrush Lane and 6 Signatories**

LATE SUBMITTERS:	
Page 249	**Takaanini Rentors Limited**

SUBMITTERS TAKAANINI LEVEL CROSSING – NOR2 - WALTERS ROAD LEVEL CROSSING CLOSURE AND NEW MULTI-MODAL BRIDGE:	
Page 251	**Mead Trusts Holdings Ltd - Carters Takanini**
Page 253	**Ting-Chun Cho**
Page 255	**Takanini Business Association Inc**
Page 263	**Krittibas Dasgupta**
Page 268	**Carter Building Supplies**
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Page 282	**Van Den Brink 254 Limited**
Page 289	**Brian Hogan**
Page 292	**Alda Investments Ltd**
Page 373	**DE Nakhle Investment Trust**
Page 455	**KiwiRail Holdings Limited**
Page 461	**Jayanta Bhaduri and Sudarshana Bhaduri**
Page 465	**Auckland Council Parks and Community Facilities**
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Page 473	**Ministry of Education**
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Page 502	**Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited**
Page 511	**Watercare Services Limited**
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Page 547	**Manpreet Kaur**

Notices of Requirement (NoR) under section 168 of the RMA by Auckland Transport for:

- **NoR 1: Takaanini Level Crossings (TLC): Spartan Road, Manuia Road, Manuroa Road and Taka Street**
- **NoR 2: Takaanini Level Crossings (TLC): Walters Road level crossing closure and new multi-modal bridge**

To: Hearing Commissioners

From: Joy LaNauze, Senior Policy Planner, Auckland Council

Report date: 13 March 2024

Scheduled hearing date: 27-30 May, 4-7 June 2024

Notes:

This report sets out the advice of the reporting planner in relation to two Notices of Requirement. Separate recommendations and conditions are provided for each NoR.

This report has yet to be considered by the Hearing Commissioners delegated by Auckland Council (the council) to make a recommendation to the requiring authority.

The recommendations in this report are not the decisions on the notices of requirement.

Decisions on the notices of requirement will be made by the requiring authority (Auckland Transport) after it has considered the Hearing Commissioners' recommendations, subsequent to the Hearing Commissioners having considered the notice of requirement and heard the requiring authority and submitters.

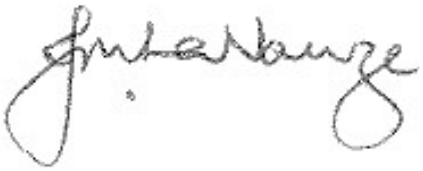
Summary

Requiring authority	Auckland Transport (AT)
Notices of requirement references	• NoR 1: Takanini Level Crossing (TLC): Spartan Road, Manuia Road, Manuroa Road and Taka Street • NoR 2: Takanini Level Crossing (TLC): Walters Road level crossing closure and new multi-modal bridge
Resource consent applications	No resource consent applications have been lodged by the requiring authority for this project.
Reporting planner	Joy LaNauze, Senior Policy Planner, Auckland Council
Site address	• NoR 1: in the vicinity of Spartan Road, Manuia Road, Manuroa Road, and Taka Street, Takanini • NoR 2: in the vicinity of Walters Road, Takanini Refer to Form 18 Attachment A: Designation Plans and Attachment B: Schedule of Directly Affected Properties for each NoR.
Lodgement date	13 October 2023
Notification date	16 November 2023
Submissions close date	14 December 2023
Number of submissions received	• NoR 1: 46 • NoR 2: 24

Report prepared by:

Joy LaNauze

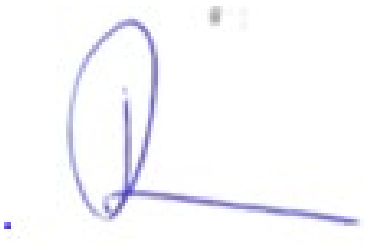
Senior Policy Planner,
Auckland Council



Date: 13 March 2024

Reviewed and approved for release by:

Craig Cairncross, Team Leader Central South, Auckland Council



Date: 13 March 2024

Abbreviations

ADP	Accidental Discovery Plan
AEE	Assessment of Effects on the Environment (Requiring Authority's Report)
AT	Auckland Transport
ATAP	Auckland Transport Alignment Project 2021-2031
AUP:OP	Auckland Unitary Plan: Operative in Part
BPO	Best Practicable Option
CAR	Cultural Advisory Report
CAS	Crash Analysis System
CCRA	Climate Change Response Act 2022
CEMP	Construction Environmental Management Plan
CHI	Cultural Heritage Inventory
CIA	Cultural Impacts Assessment
CMP	Cultural Monitoring Plan
CNVMP	Construction Noise and Vibration Management Plan
CoPTTM	Code of Practice for Temporary Traffic Management
CPTED	Crime Prevention Through Environmental Design
CRL	City Rail Link
CTMP	Construction Traffic Management Plan
CVA	Cultural Values Assessments
DBC	Detailed Business Case
DOC	Department of Conservation
ECE	Early Childhood Education
EcIA	Ecological Impact Assessment
EIANZ	Environmental Institute of Australia and New Zealand
ERP	Emissions Reduction Plan
Four Tracking	Anticipated upgrade of North Island Main railway Trunk line from two tracks up to four tracks
FDS	Future Development Strategy
FUZ	Future Urban Zone
GIS	Geographic Information System
GPSLT	Government Policy Statement on Land Transport for 2021/22-2030/31
IBC	Indicative Business Case
IPI	Intensification Planning Instrument
ISPP	Intensified Streamlined Planning Process
ISTN	Indicative Strategic Transport Network
KiwiRail	KiwiRail Holdings Limited
LGA	Local Government (Auckland Council) Act 2009
LINZ	Land Information New Zealand

LOS	Level of service
LTMA	Land Transport Management Act 2003
MCA	Multi-Criteria Assessment
MDRS	Medium Density Residential Standards
MoT	Ministry of Transport
MP	Minister of Parliament
MPD	Maximum Probable Development
MSM	Macro Strategic Model (regional multi-modal model)
N/A	Not Applicable
NES	National Environmental Standard
NIMT	North Island Main Trunk railway trunk
NoR	Notice of Requirement
NoR 1	Notice of Requirement 1: Takaanini Level Crossings Project (Spartan Road, Manuia Road, Manuroa Road, and Taka Street)
NoR 2	Notice of Requirement 2: Takaanini Level Crossings Project (Walters Road)
NPS	National Policy Statement
NPS:UD	National Policy Statement on Urban Development
NRSS	National Rail System Standards
NUMP	Network Utility Management Plan
NZAA	New Zealand Archaeological Association
PBC	Programme Business Case
PC78	Plan Change 78 to the Auckland Unitary Plan: Operative in Part
PPFs	Protected premises and facilities
PPV	Peak Particle Velocity
Programme partners	Auckland Transport, Waka Kotahi and Manawhenua
PT	Public Transport
PWA	Public Works Act 1981
RCA	Road Controlling Authority
RLTP	Auckland Regional Land Transport Plan
RMA	Resource Management Act 1991
RP	Regional Plan
RPS	Regional Policy Statement
SAMM	Strategic Active Mode Model
SAP	Site Access Points
SATURN	Simulation and Assignment of Traffic to Urban Road Networks model
SCEMP	Stakeholder and Communication Engagement Management Plan
SCMP	Stakeholder and Community Engagement Plan
SEA	Significant Ecological Area
SH1	State Highway 1
SIA	Social Impact Assessment

SIDRA	Signalised/ unsignalized Intersection Design and Research Aid model
SME	Subject Matter Expert
SRS	Site Recording Scheme
SSBC	Single Stage Business Case
SSTMP	Site-Specific Traffic Management Plan
TAR	Threatened and At-Risk
Te Tupu Ngātahi	Te Tupu Ngātahi Supporting Growth
TfUG	Transport for Future Urban Growth
TLC/the Project	Takaanini Level Crossings Project
TMP	Tree Management Plan
Te Tangi a te Manu	Tuia Pito Ora New Zealand Institute of Landscape Architects (2022) Te Tangi a te Manu, Aotearoa New Zealand Landscape Assessment Guidelines
UDE	Urban Design Evaluation
ULDMP	Urban and Landscape Design Management Plan
VKT	Vehicle Kilometres Travelled
Waka Kotahi	Waka Kotahi NZ Transport Agency

Spelling of Takanini: The Requiring Authority have used 'Takaanini' with double vowels in their documents, acknowledging the ongoing kōrero and guidance from Manawhenua. 'Takanini' is used by the Requiring Authority where reference is made to an existing named place (e.g., Takanini Road).

- *Council refers to 'Takanini' (official Geographic Board name for the suburb) in this report, unless quoting Requiring Authority references (e.g. 'Takaanini Level Crossings') or officially renamed places (e.g. 'Takaanini Railway Station').*

1. Introduction

1.1 Report Author

My name is Joy Martha LaNauze.

I hold a Bachelor of Town Planning (Auckland University 1987). I am a Member of the New Zealand Planning Institute.

I have over 30 years of New Zealand local authority planning experience. I have undertaken policy planning work for the former Papakura District Council (June 2005 to November 2010) and Auckland Council (since November 2010). Takanini is in the former Papakura District Council area, and I also plan for the former Manukau and Franklin Districts in South Auckland as part of Council's Plans and Places – Central South Team in the Chief Planning Office.

My key responsibilities in my role as a senior policy planner for the Council include processing and reporting on plan changes and notices of requirement for designations/alterations to designations.

1.2 Code of conduct for Expert Witnesses

I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023. I have complied with the Code of Conduct in preparing this planning report (being also expert evidence), and I agree to comply with it when giving any oral evidence during this hearing. Except where I state that I am relying on the evidence of another person, my evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

During the pre-application phase I attended the project briefing arranged by the SGA for council on 5 April 2023 and the subsequent site visit on 19 April 2023.

2. The Notices of Requirement

2.1 Takaanini Level Crossings Notices of Requirement

Pursuant to section 168 of the RMA, Auckland Transport (AT) as the Requiring Authority (RA), has given notice of requirement (NoR) for two designations in the Auckland Unitary Plan (Operative in Part) (AUP:OP) for the Takaanini Level Crossings Project (TLC). The NoRs have been prepared by Te Tupu Ngātahi Supporting Growth (SGA).

The NoRs seek to enable the construction, operation, maintenance, and upgrade of five grade-separated bridge crossings of the North Island Main Trunk (NIMT) railway line in Takaanini. These grade-separated crossings will replace four existing road-rail level crossings which will be closed to address existing safety, severance and congestion issues.

Table 1.1: Description of the TLC NoRs adapted from AEE Version 1.0 page 2:

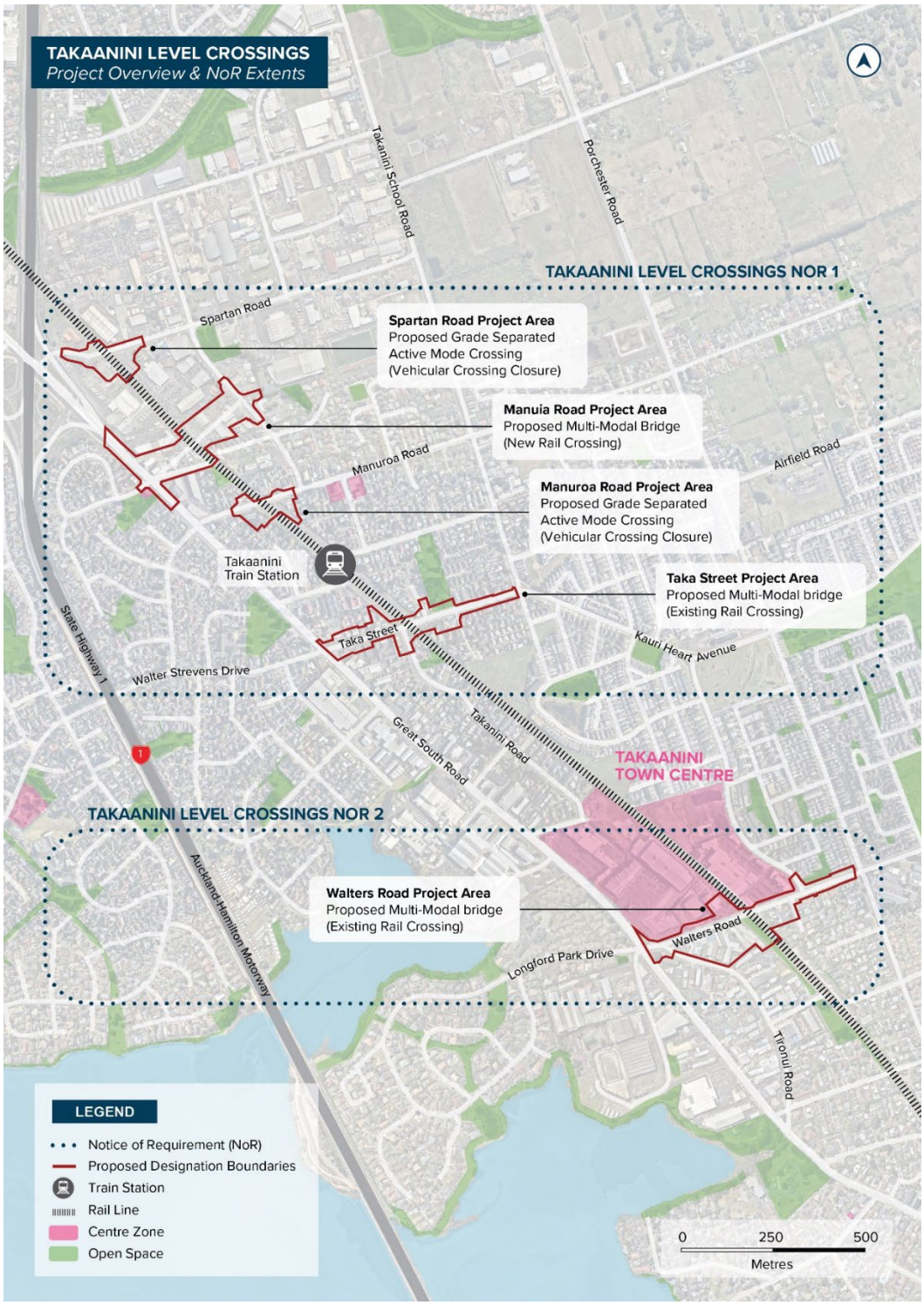
Notice	Project area	Description
NoR 1	**Spartan Road**	Closure of the existing level crossing, construction of a new bridge with walking and cycling facilities across the NIMT and associated works.
	Manuia Road	Construction of a new bridge with general traffic lanes and walking and cycling facilities across the NIMT and associated works.
	Manuroa Road	Closure of the existing level crossing, construction of a new bridge with walking and cycling facilities across the NIMT and associated works.
	Taka Street	Closure of the existing level crossing, construction of a new bridge with general traffic lanes and walking and cycling facilities across the NIMT and associated works.
NoR 2	**Walters Road**	Closure of the existing level crossing, construction of a new bridge with general traffic lanes and walking and cycling facilities across the NIMT and associated works.

See sections 2.2, 2.3 and 2.6 of this report for a more detailed description of the proposed NoRs.

2.2 Locality plans

The locality of the entire TLC project is shown in Figure 1-1 below. Readers are also referred to the Form 18 Designation Plans for each NoR (in Volume 1 of each NoR) and the NoR General Arrangement Plans for each NoR (in Volume 3 of the notified NoRs) which outline the extent of each NoR.

Figure 2-1: TLC Proposed Network from AEE Version 1.0 page 3



2.3 Notice of Requirement documents

The lodged TLC NoRs consist of the following documents:

(i) Lodgement Cover Letter

(ii) Volume 1 - Form 18 and supporting material

- NoR 1 Form 18
    - Attachment A: Designation Plans
    - Attachment B: Schedule of Directly Affected Properties
    - Attachment C: Proposed Conditions for the Designation
- NoR 2 Form 18
    - Attachment A: Designation Plans
    - Attachment B: Schedule of Directly Affected Properties
    - Attachment C: Proposed Conditions for the Designation

(iii) Volume 2 - Assessment of Effects on the Environment

- Assessment of Effects on the Environment
    - Appendix A: Assessment of Alternatives

(iv) Volume 3 Design Drawings

- General Arrangement Plan – NoR 1
- General Arrangement Plan – NoR 2

(v) Volume 4 Supporting Technical Reports

- Assessment of Arboricultural Effects
- Assessment of Archaeological and Heritage Effects
- Assessment of Construction Noise and Vibration Effects
- Assessment of Ecological Effects
- Assessment of Operational Noise Effects
- Assessment of Landscape and Visual Effects
- Supplementary Assessment of Landscape and Visual Effects
- Assessment of Traffic and Transport Effects
- Assessment of Flooding Effects
- Social Impact Assessment
- Urban Design Evaluation Report.

Given the amount of information provided, it has not been attached to this report. Instead, the notified application documents are available on council's hearings website at:

https://www.aucklandcouncil.govt.nz/have-your-say/hearings/find-hearing/Pages/Hearing-documents.aspx?HearingId=765

2.4 Section 92 requests and responses

Section 92 of the RMA allows councils to request further information from a requiring authority and/or commission a report, at any reasonable time before the hearing, subject to the provisions of Section 92.

The Council made a section 92 further information request on 30 October 2023 relating to the following topics:

- General/Planning

- Arboricultural
- Flooding
- Geotechnical
- Landscape Visual
- Parks
- Social Impact
- Traffic
- Urban Design.

The Requiring Authority responded to council's s92 requests on 10 November 2023, prior to notification on 16 November 2023. The responses were included in the notified NoR documents. The Council's section 92 requests and the Requiring Authority's responses are provided are available on council's hearings website at:

https://www.aucklandcouncil.govt.nz/have-your-say/hearings/find-hearing/Pages/Hearing-documents.aspx?HearingId=765

Since notification, council's specialists and reporting planner have reviewed the responses to council's s92 requests. Not all the requested information was supplied or deemed to be sufficient. In their evaluations of the NoRs and the submissions, the specialists and reporting planner have identified where information previously requested at the s92 stage still needs to be supplied either in evidence or at the hearing.

2.5 Technical Specialist reviews

The assessment in this report takes into account reviews and advice from the following technical specialists engaged by the council:

Specialist	Specialty
Leon Saxon (External Consultant - Arborlab Limited)	Arboricultural Effects
Myfanwy Eaves, Auckland Council	Archaeological effects
David Russell, Auckland Council	Development Engineering effects
Simon Chapman (External Consultant - Ecology NZ)	Terrestrial Ecology Effects
Patrick Shorten (External Consultant – Fraser Thomas Limited)	Geotechnical Effects
Rob Pryor (External Consultant – LA4 Limited)	Landscape and Visual Effects
Peter Runcie (External Consultant – SLR Consulting)	Acoustic Noise and Vibration Effects
Andrew Miller	Parks Planning Effects

External Consultant - CoLab Planning)	
Rebecca Foy (External Consultant – Formative Limited)	Social impact Effects
Trent Sunich (External Consultant - SLR Consulting)	Stormwater and Flood Hazard Effects
Martin Peake (External Consultant - Progressive Transport Solutions Limited)	Traffic and Transport Effects
Jason Evans (External Consultant - ET Urban Design Ltd)	Urban Design Effects

The specialist reviews are provided in **Attachment 5** to this report. The order of the specialist reviews in **Attachment 5** corresponds with the order in the assessment of effects in section 5 of this report.

2.6 Notices of requirement description

2.6.1 Background

The North Island Main Trunk (NIMT) railway line runs north to south through Takanini. Currently there are four road level crossings along the railway in the Takanini area. From north to south, these are at Spartan Road, Manuroa Road, Taka Street, and Walters Road. These level crossings are at grade and use barrier arms allow for rail operations.

KiwiRail Holdings Limited (KiwiRail) plans to upgrade the railway from two to four tracks and increased train movements are anticipated from the operation of the City Rail Link. This will result in increased train movements through Takanini, which will increase barrier closures.

Urban growth is expected to increase east-west travel demand in Takanini.

AT is financially responsible for Auckland's transport network and services (excluding state highways), including roads, footpaths, cycling, parking and public transport services. AT is a Council Controlled Organisation under the Local Government (Auckland Council) Act 2009 (LGA), which states that AT's purpose is to "contribute to an effective, efficient and safe Auckland land transport system in the public interest".

As set out in the Requiring Authority's "Assessment of Effects on the Environment" (AEE), Te Tupu Ngātahi Supporting Growth (Te Tupu Ngātahi) is a collaboration between AT and Waka Kotahi NZ Transport Agency (Waka Kotahi) to plan transport investment in Auckland's future urban zoned areas over the next 10 to 30 years. The key objective of Te Tupu Ngātahi is to protect land for future implementation of the required strategic transport infrastructure.

AT and Waka Kotahi have partnered with Auckland Council, Mana Whenua, and KiwiRail Holdings Limited (KiwiRail) and are working closely with stakeholders and the community to support Auckland's growth areas. The TLC is one of the transport work packages proposed for the Takanini area to respond to existing transport deficiencies (congestion, severance and safety issues) and provide for future forecasted growth pressures in the area.

The TLC project proposes to replace the four road-rail level crossings in Takanini with five grade-separated bridge crossings of the NIMT. This is intended to respond to existing transport deficiencies (congestion, severance and safety issues) and provide for future forecasted growth pressures in the area. The AEE states that the grade separation will result in a network of safe east-west crossings across the NIMT which will increase the accessibility, connectivity, and capacity of the local transport network; and will ensure that rail services on the NIMT can operate more frequently without impeding east-west journeys.

As a form of route protection, AT as the Requiring Authority seeks designations to identify and protect the land necessary to enable the future construction, operation and maintenance of this planned transport infrastructure.

The NoRs are based on a concept level design and rely on outline plans of work, conditions, and future management plans to confirm design detail and address local effects. As such the NoRs make greater use of generic cross sections and design standards, focus more on desired outcomes and full-build footprints, take a longer-term view, and assume more use of recommended management plans and planning processes rather than specific design details to manage the potential effects (AEE 11.2.1)

2.6.2 Project descriptions as notified

The project descriptions from Schedule 1 of the notified conditions are as follows:

Schedule 1: General accordance plans and information

NoR 1

The proposed work is for the construction, operation, maintenance, and upgrade of transport infrastructure across four project areas in Takaanini. The proposed work is shown in the following Concept Plan and includes:

Spartan Road project area

- Closure of the existing level crossing on Spartan Road and construction of a new bridge with walking and cycling facilities across the North Island Main Trunk line;

Manuia Road project area

- Construction of a new bridge with general traffic lanes and walking and cycling facilities across the North Island Main Trunk line, between the intersection of Oakleigh Avenue with Hitchcock Road and the intersection of Great South Road with Challen Close;

Manuroa Road project area

- Closure of the existing level crossing on Manuroa Road and construction of a new bridge with walking and cycling facilities across North Island Main Trunk line;

Taka Street project area

- Closure of the existing level crossing on Taka Street and construction of a new bridge with general traffic lanes and walking and cycling facilities across North Island Main Trunk line;

All project areas

- Associated works in each project area including but not limited to intersections, turning heads, ramps, staircases, access lanes, active mode facilities, embankments, retaining walls, culverts, stormwater management systems;
- Changes to local roads in each project area, where the proposed works intersect with local roads; and
- Construction activities in each project area, including vegetation removal, construction areas and the re-grading of driveways.

NoR 2

The proposed work is for the construction, operation, maintenance, and upgrade of transport infrastructure within the Walters Road project area in Takaanini. The proposed work is shown in the following Concept Plan and includes:

- Closure of the existing level crossing on Walters Road and construction of a new bridge with general traffic lanes and walking and cycling facilities across the North Island Main Trunk line;
- Associated works including but not limited to intersections, access lanes, active mode facilities, embankments, retaining walls, culverts, stormwater management systems;
- Changes to local roads, where the proposed works intersect with local roads; and
- Construction activities, including vegetation removal, construction areas and the re-grading of driveways.

Overview

The indicative design has been prepared for assessment purposes and to indicate what the final design of the project may look like. The final design will be refined and confirmed at the detailed design stage. Key features of the works common across the project areas include:

- Bridge structures across the NIMT with a vertical clearance from existing ground level to road surface of approximately 7.8 metres;
- Works to tie in with existing roads;
- Batters and/or retaining and associated cut and fill activities;
- Vegetation removal within the project areas to enable construction; and
- Areas identified for construction related activities including site compounds, construction laydown, alternative access, and construction traffic manoeuvring.
- Expected construction start: 2038
- Expected full operation: 2048
- Construction durations are indicative and assume that each project area will be constructed independently of each other. These durations may change if the bridges were to be constructed concurrently or sequentially.
- Proposed lapse period of 15 years sought for both NoRs.

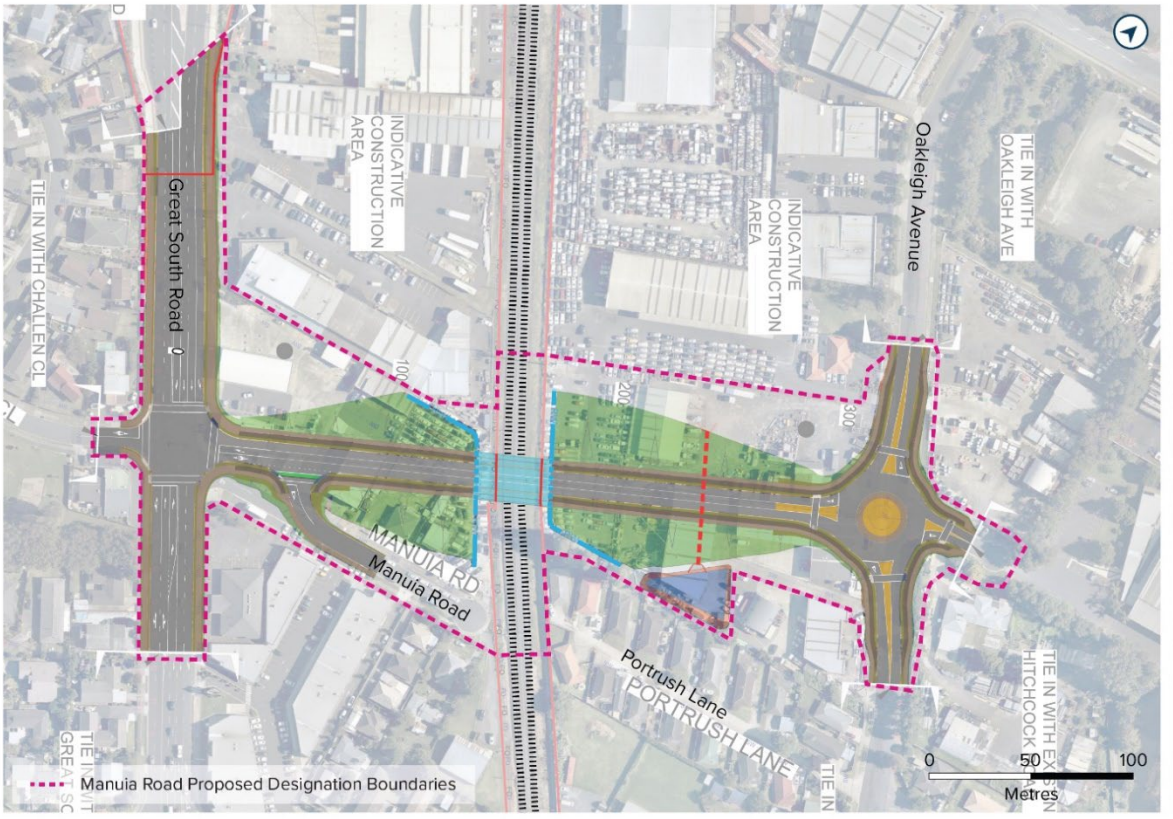
2.6.3 Nature of the proposed works

The proposed works within the project areas are detailed in the application. The AEE includes project area overview diagrams as follows.

- **NoR 1 - Spartan Road project area:**

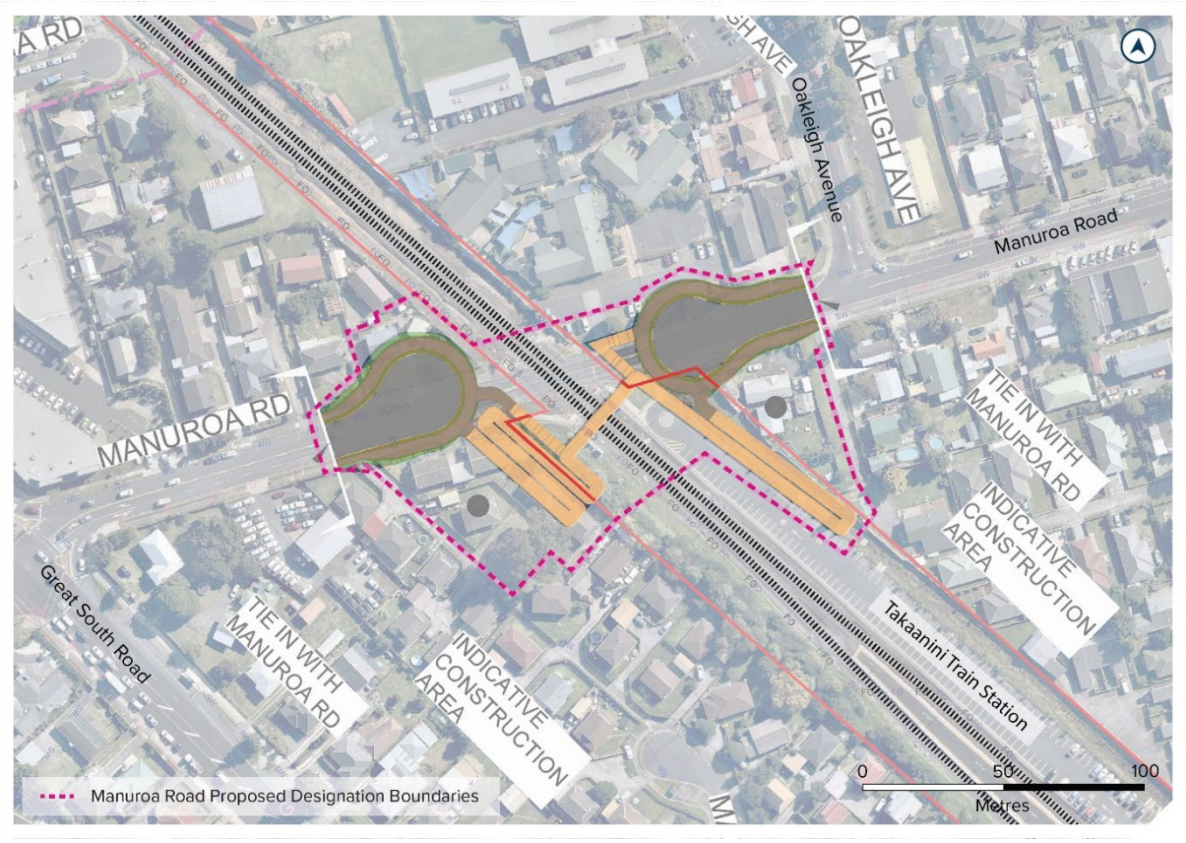
  - Closure of the existing road corridor to vehicular traffic across the NIMT
  - Construction of an active mode bridge across the NIMT
  - Construction of culs de sac (accommodating footpaths) and works to tie into the existing corridor on either side of the NIMT along Spartan Road
  - Ramps and stairs will connect the bridge on either the side (east and west) of the NIMT and will tie into the culs de sac.
  - Approximately 12 affected properties
  - Expected construction duration: 1 to 2 years.

- **NoR 1 Manuia Road project area** (Source: AEE)



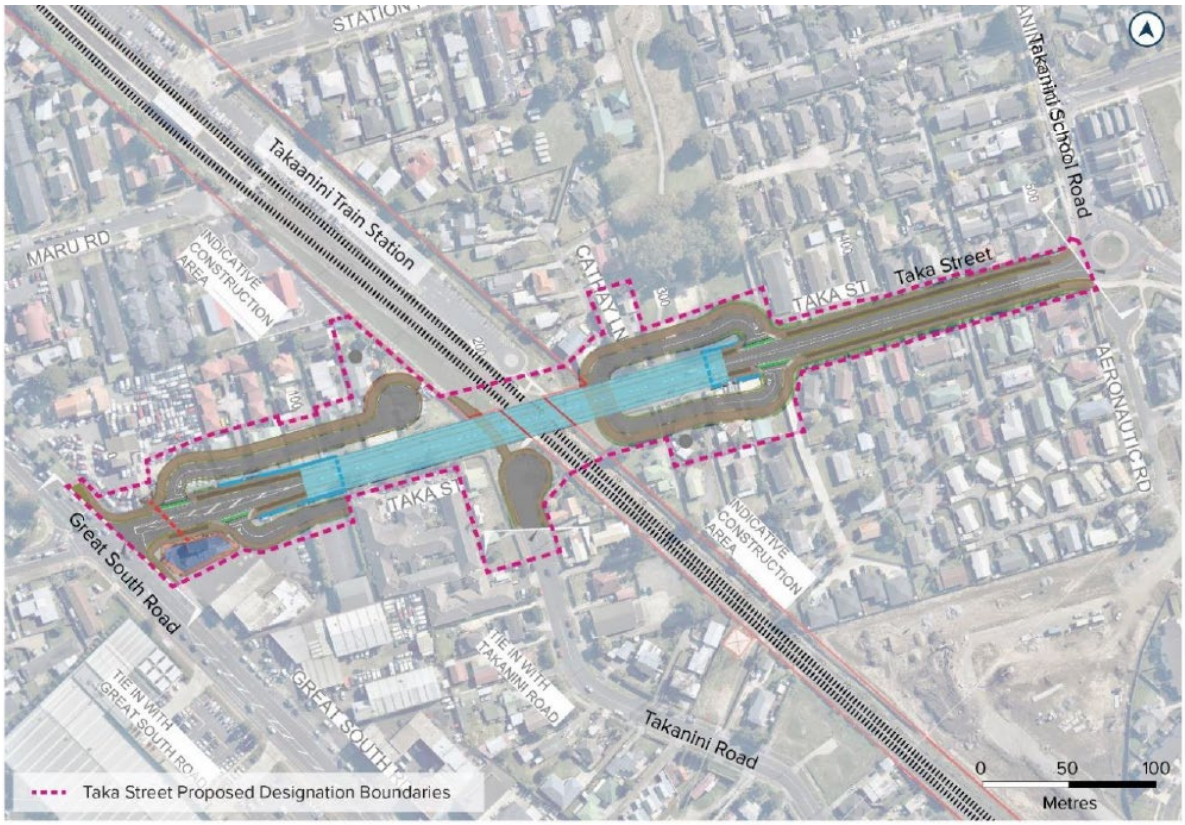
  - There is currently no existing east-west corridor / level crossing across the NIMT in this project area
  - Construction of new arterial road bridge across the NIMT accommodating two lanes (one in each direction) and separated active mode facilities
  - Construction of new arterial road corridors tying into either side of the bridge (east and west of the NIMT) accommodating two vehicle lanes (one in each direction) and separated active mode facilities
  - Stormwater culvert and associated flood offset storage area
  - Approximately 41 affected properties
  - Expected construction duration: 2.5 to 3 years.

- **NoR 1 Manuroa Road project area** (Source: AEE)



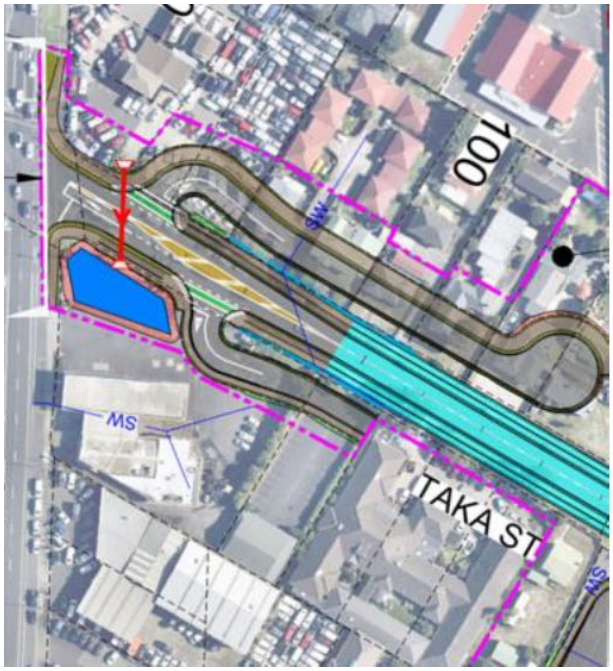
- Closure of the existing road corridor to vehicular traffic across the NIMT
- Construction of an active mode bridge across the NIMT
- Construction of culs de sac (accommodating footpaths) and works to tie into the existing corridor on either side of the NIMT along Manuroa Road
- Ramps and stairs will connect to the bridge on either side (east and west) of the NIMT and tie in to the culs de sac
- Approximately 12 affected properties
- Expected construction duration: 1 to 2 years.

- **NoR 1 Taka Street project area** (Source: AEE)



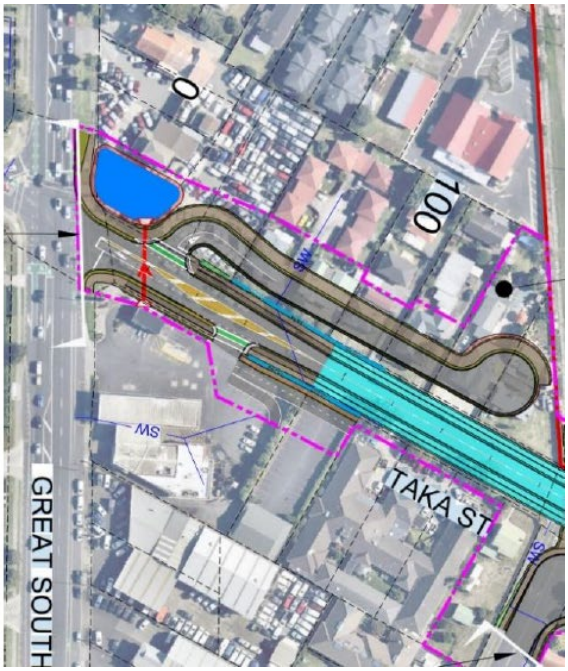
Taka Street – notified extent:

(Source: AEE)



Taka Street: modification sought:

(source: Supporting Growth letter 9 Nov 2023)



  - Construction of an arterial road bridge across the NIMT accommodating two vehicle lanes (one in each direction) and separated active mode facilities

- Construction of arterial road corridors tying into either side of the bridge and existing intersections (east and west of the NIMT). The corridors will accommodate two vehicle lanes (one in each direction) and separated active mode facilities
- Closure of existing Takanini Road (north) to vehicular traffic at the intersection with Taka Street bridge i.e. no through-traffic provision
- Construction of four access lanes
- Stormwater culvert and associated flood offset storage area
- Approximately 102 affected properties
- Expected construction duration: 2.5 to 3 years.

Modified NoR 1 boundary request – Taka Street project area (west)

In a letter dated 9 November 2023, Supporting Growth sought a minor alteration to the notified extent of Auckland Transport's Takaanini Level Crossings Notice of Requirement – NoR 1-Taka Street Project Area (west).

The extent of the NoR has been altered on the properties on the north eastern and south eastern corners of Taka Street and Great South Road. The NoR extent has been increased on the north eastern property (162 Great South Road, Takanini), and decreased on the south eastern property (166-168 Great South Road Takanini).

That letter forms a part of the Requiring Authority's response to Council's s.92 Resource Management Act 1991 (RMA) request for further information, and was made publicly available on the web pages for the Takaanini Crossings Notice of Requirement (NoR).

The letter advised that engagement with affected landowners has resulted in some localised refinements to the proposed design and designation boundaries of the NoR, and that all affected landowners have been contacted by Supporting Growth and are aware of the proposed refinements.

The letter advises that the Requiring Authority will address the full rationale for the proposed change and implications for the assessment of environmental effects will be addressed in evidence moving forward.

Submissions to NoR 1 have been received from the owners of both these affected properties:

- 162 Great South Road Takanini - NoR 1 Submission 18 from Dealership Properties Limited
- 166-168 Great South Road Takanini – NoR 1 Submission 42 from Z Energy Limited

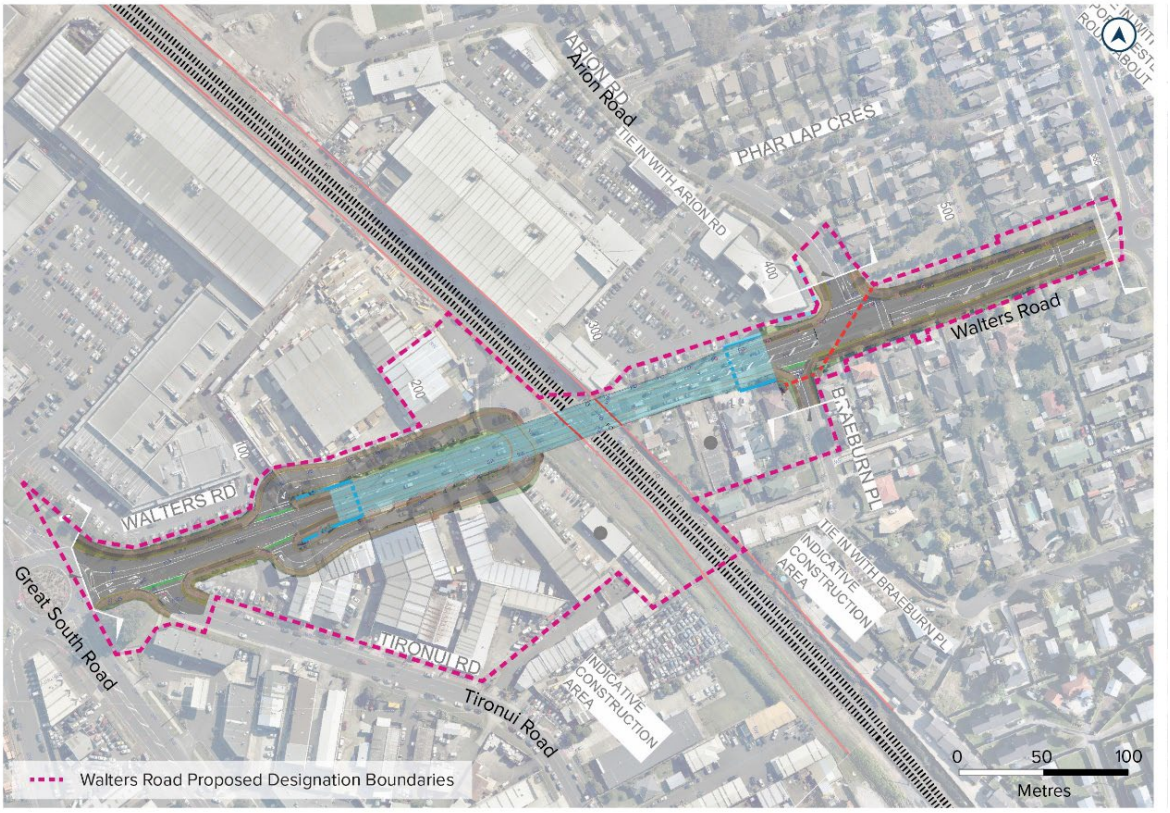
Council updated the NoR 1 boundaries on its GIS viewer on 28 February 2024 to reflect the proposed modified boundaries sought by the Requiring Authority.

I consider it appropriate that the Requiring Authority provides the following information either in evidence or at the hearing:

- address the full rationale for the proposed change and implications for the assessment of environmental effects for the altered extent of Takaanini Level Crossings Notice of Requirement – NoR 1-Taka Street Project Area (west) (as set out in Supporting Growth's 9 November 2023 letter to council).

NoR 2

- **Walters Road project area** (Source: AEE)



- Construction of an arterial road bridge across the NIMT accommodating two vehicle lanes (one in each direction) and separated active mode facilities
- Construction of arterial road corridors tying into either side of the bridge and existing intersections (east and west of the NIMT). The corridors will accommodate two vehicle lanes (one in each direction) and separated active mode facilities
- Construction of two access lanes
- Upgrade of intersections
- Stormwater culvert
- Approximately 64 affected properties
- Expected construction duration: 2.5 to 3 years.

Project Description –clarification sought for conditions

Proposed Condition 1 for both NoRs reads (in part):

(a) Except as provided for in the conditions below, and subject to final design and Outline Plan(s), works within the designation shall be undertaken in general accordance with the following in Schedule 1:

(i) the Project Description; and

(ii) Concept Plans.

Schedule 1 of Form 18 for each of NoR 1 and NoR 2, says that the proposed works are shown in the Concept Plans and lists the works that are purportedly shown in the Concept Plans.

However, the only information contained in the 'Concept plans' in Schedule 1 of each of the two Form 18s are plans that outline the designation boundary. The Concept Plans do not show the proposed works listed (e.g. embankments, retaining walls, culverts, stormwater management systems etc). Those works are shown on the Design Drawings in Volume 3 for each NoR, as General Arrangement drawings.

In its s92 request to the Requiring Authority (dated 30 October 2023), Council requested further information regarding the intended purpose of proposed Condition 1 in relation to the requirement that works be undertaken in general accordance with the 'Concept Plans" in Schedule 1, when those concept plans only identify the 'Designation boundary and provide no details of the concept design (which are shown on the General Arrangement drawings).

The Requiring Authority in its s92 information response to council (dated 10 November 2023) replied that,

> *"The works are intended to be undertaken in general accordance with Schedule 1 which includes both the 'Project Description' and 'Concept Plan'. The concept plans included in the proposed condition set include the indicative design (monochromatic) within the designation boundaries. These have been derived from the general arrangement (GA) Plans (supplied as Volume 3 of the lodgement package). The Project Description also covers the key components of the Project. The GA plans were only intended to illustrate an indicative design. As typical of large infrastructure projects, detailed design of the project works will be advanced via Outline Plan subject to the scope of the designation, its boundary and outcomes prescribed via conditions including management plans."*

Council also requested in its s92 request to the Requiring Authority that confirmation be provided that the "project description" that Condition 1 refers to is contained in Schedule 1 and requested identification of which part of Schedule 1 is "the project description". This was because Proposed Condition 1 for each of NoR 1 and NoR 2 refers to "the Project Description". However, Schedule 1 for each of NoR 1 and NoR 2 does not contain any heading or subheading using that term, and it is not readily apparent which part of the content is intended to be 'the project description'.

The Requiring Authority responded that the 'Project Description' refers to all of the descriptive text included in Schedule 1 before the Concept Plan(s) for each respective NoR. The description begins with "the proposed work is for the construction, operation, maintenance and upgrade of transport infrastructure…" Their response stated that for clarity, a 'Project Description' subheading would be added to the proposed condition set. That updated condition wording has not been provided.

I consider it appropriate that the Requiring Authority provides the following information either in evidence or at the hearing:

- amendments to the conditions to provide clarity around 'Project Description' for each NoR.

2.6.4 Lapse period

Section 184 of the RMA provides for a designation to lapse five years after it is included in the District Plan unless:

a) It has been given effect to; or

b) Within three months of the designation lapsing, the territorial authority determines that substantial progress or effort has been and continues to be made towards giving effect to the designation, or
c) The designation specifies a different lapse period

The Requiring Authority SGA has sought an extended lapse period for each of the Takaanini Level Crossing NoRs of 15 years.

The rationale for the lapse period is set out in Section 7 of the AEE which states that a 15-year lapse period is considered reasonably necessary because it provides AT with sufficient time to:

- Determine the prioritisation of the Project(s) - noting that while the existing Takaanini level crossings have been identified as a significant constraint to enabling capacity of the CRL and passenger rail in the south, there are separate AT business case processes (i.e., Auckland Rail PBC and the Auckland Level Crossings Single Stage Business Case (**SSBC**)) being undertaken to evaluate all road-level crossings in Auckland and their priority for removal/replacement;
- Undertake the detailed design of the Project;
- Obtain the necessary resource consents;
- Obtain funding (noting that some funding has been secured through the Regional Land Transport Plan 2021 – 31 for all level crossings across Auckland but there is no certainty on what crossing(s) will be prioritised);
- Undertake tendering/procurement;
- Undertake property and access negotiations; and
- Construct the Project.
- Provides AT sufficient flexibility to coordinate Project delivery with related public works such as NIMT Four Tracking and scheduled maintenance;
- Provides property owners, business and the community certainty on where transport routes will be located (i.e. within the designation boundaries) and within what timeframe the designation is to be given effect to;
- Protects the land necessary to provide safe and efficient grade-separated crossings and protects it from incompatible land uses in the interim. This is particularly critical given the intensification provided for through Plan Change 78 to the Auckland Unitary Plan: Operative in Part (**PC78**) and the Medium Density Residential Standards (**MDRS**) which could see greater build out and compromise to the Project areas before funding is available to implement the works; and
- It is generally accepted that large complex infrastructure projects require longer lapse periods as confirmed on recent projects such as the Drury Arterial Network (AT) in 2022, East West Link (Waka Kotahi) in 2018, Southern Links (Waka Kotahi) in 2015, the Northern Interceptor Wastewater Pipeline (Watercare) in 2013, and the Hamilton Ring Road (Waikato District Council, Hamilton City Council).

2.7 Affected land

Designation plans are provided as follows:

- Volume 1 (the separate Form 18 document for each of NoR 1 and NoR 2) includes:

- Attachment A Designation Plans, and
- Attachment B – Schedule of Directly Affected Properties. This identifies properties by address and legal description, and includes the approximate land area to be designated on each site.
- Schedule 1 to the notified conditions which includes general accordance plans for each NoR and a Concept Plan for each of the NoRs.

- Volume 3 of the application contains General Arrangement Plans for each of NoR 1 and NoR 2.

In response to a request pursuant to s92 of the RMA, the Requiring Authority advised that the approximate total areas of land being designated by the NoRs is as follows:

NoR	Total Designation Extent (m^2)	Extent on private property (m^2)	Extent in road corridor (m^2)	Extent in rail corridor (m^2)
NoR 1 (Spartan Road, Manuia Road, Manuroa Road, and Taka Street project areas)	99,197	53,039	34,692	11,466
NoR 2 (Walters Road project area)	48,140	28,417	17,559	2,164

2.8 Site, locality, catchment and environment description

Both NoRs are within an existing urban area.

Site and environment descriptions provided by the Requiring Authority are set out in the AEE and within each of the technical assessments supporting the NoRs. The Requiring Authority has set out the approach to the likely receiving environment in Section 9.7 of the AEE,

The AEE sets out the land use today and zoning type by project area:

NoR 1 - Spartan Road project area

- The land use surrounding the project area comprises predominantly heavy and light industrial uses
- Current zones are:
  - Business – Heavy Industry Zone
  - Business Light Industry Zone
  - Open Space– Informal Recreation Zone
  - Strategic Transport Corridor Zone

- The project area crosses an artificially constructed (land drain). On the south-eastern corner of Spartan Road and Oakleigh Ave there is a stormwater pond / modified natural wetland.

NoR1 Manuia Road project area

- The land use surrounding the Manuia Road project area comprises predominantly commercial and industrial uses to the north (e.g., service station, car yards, mechanics, warehouses and fabrication services). The project area is on the fringe of established residential, retail and community land uses to the south (e.g., scout hall and family centre).
- There are a number of community and recreational facilities in the project area including a medical centre, shops, a Scout hall, and childcare centres
- Current zones are:

- Business Light Industry Zone
- Business- Neighbourhood Centre Zone
- Residential – Mixed Housing Urban Zone
- Residential Mixed Housing Suburban Zone
- Open Space – Community Zone
- Open Space– Informal Recreation Zone
- Strategic Transport Corridor Zone

- The south-eastern corner of Spartan Road and Oakleigh Ave contains a stormwater pond / modified natural wetland. A modified natural wetland is located on Scott Field Drive. A modified stream channel that connects Oakleigh Ave stormwater pond / modified natural wetland and Scott Field Drive modified natural wetland is adjacent to the Manuia Road project area.

NoR 1 Manuroa Road project area

- Land use surrounding the Manuroa Road project area is predominantly residential uses, with some community and commercial land uses (e.g. a church, early childcare centres, a medical centre and a shopping centre).
- Takaanini Train Station is located to the south of Manuroa Road
- Current zones are:
  - Business- Neighbourhood Centre Zone
  - Residential – Mixed Housing Urban Zone
  - Residential Mixed Housing Suburban Zone
  - Open Space – Community Zone
  - Open Space– Informal Recreation Zone
  - Strategic Transport Corridor Zone

- The project area crosses an artificially constructed swale.

NoR 1 Taka Street project area

- Land use surrounding the Taka Street project area is dominated by residential uses but includes some industrial and commercial uses. A care centre, community hall, early learning centre, council reserve and a church are within the project area.
- Current zones are:
  - Business- Light Industry Zone
  - Residential – Mixed Housing Urban Zone
  - Residential Mixed Housing Suburban Zone
  - Open Space– Informal Recreation Zone
  - Strategic Transport Corridor Zone

- Part of the project area is in Takanini sub-Precinct C
- The project area crosses an artificially constructed swale and drain.

NoR 2 Walters Road project area

- Land use surrounding the Walters Road project area to the east of the NIMT is predominantly residential with some commercial and retail activities within the Town Centre zone.

- The area west of the NIMT contains industrial, commercial, and retail activities.
- The project area includes childcare centres and a park, and is near a school
- Current zones are:
  - Business – Town Centre Zone
  - Business- Light Industry Zone
  - Residential – Mixed Housing Urban Zone
  - Residential Mixed Housing Suburban Zone
  - Open Space– Informal Recreation Zone
  - Strategic Transport Corridor Zone
  - Special Purpose Zone
- Part of the project area is in Takanini sub-Precinct C.

The AEE also sets out the likelihood of change for the environment (ranging from low to high) and the likely future environment. The Spartan Road project area (NoR 1) is a business land area. The AEE anticipates residential zoning in the Manuia Road, Manuroa Road and Taka Street project areas (NoR 1) will intensify to THAB, and that the residential zoning in the Walters Road area (NoR 2) will intensify to MHU as anticipated by council Plan Change 78. The NoR 1 project areas are with the proposed walkable catchment around the Takaanini Train Station. The Walters Road project area includes commercial uses.

2.9 Other designations and notices of requirement

In order for a requiring authority to undertake work in accordance with a designation on land where there is an existing designation in place, the written consent of the requiring authority for the earlier designations required under s177(1)(a) of the RMA.

The AEE states that initial consultation and engagement on the project with all affected Network Utility Operators has been undertaken and is required to be ongoing as the project develops. The AEE states that this will be further supported by the requirements of the Network Utilities Management Plan (NUMP) which is proposed as a condition for both NoRs.

The table below summarises the interface of the NoRs with other designations and NoRs. The proposed NoRs also overlap with two South Frequent Transit Network (FTN) Upgrade NoRs.

NoR and Project Area	Existing Designations	Overlap with South FTN NoRs
NoR 1 Spartan Road Project Area	Designation 200 Ardmore Airport Purposes (Ardmore Airport Ltd Designation 1102 Obstacle Limitation, Runway Protection and Ground Light Restriction (Auckland international Airport Ltd) Designation 6302 North Island Main Trunk Railway Line (KiwiRail Holdings Ltd) Designation 6706 Waka Kotahi NZ Transport Agency)	
NoR 1 Manuia Road Project Area	Designation 200 Ardmore Airport Purposes (Ardmore Airport Ltd Designation 1102 Obstacle Limitation, Runway Protection and Ground Light Restriction (Auckland international Airport Ltd)	

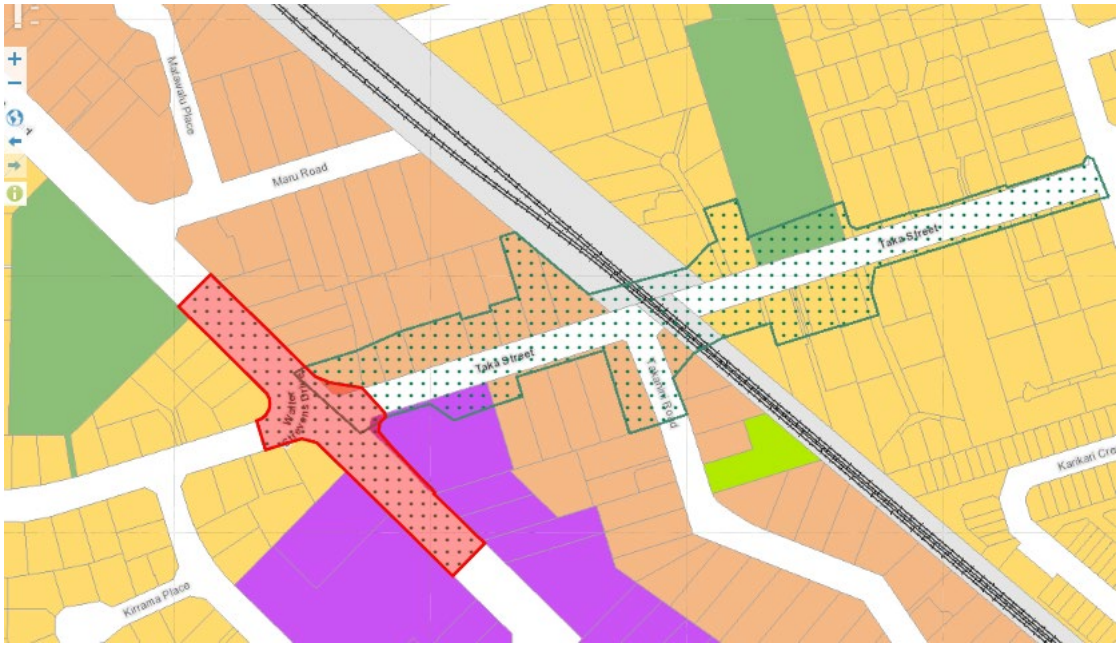
NoR and Project Area	Existing Designations	Overlap with South FTN NoRs
	Designation 6302 North Island Main Trunk Railway Line (KiwiRail Holdings Ltd) Designation 6706 Waka Kotahi NZ Transport Agency)	
NoR 1 Manuroa Road Project Area	Designation 200 Ardmore Airport Purposes (Ardmore Airport Ltd Designation 1102 Obstacle Limitation, Runway Protection and Ground Light Restriction (Auckland international Airport Ltd) Designation 6302 North Island Main Trunk Railway Line (KiwiRail Holdings Ltd)	
NoR 1 Taka Street Project Area	Designation 200 Ardmore Airport Purposes (Ardmore Airport Ltd Designation 1102 Obstacle Limitation, Runway Protection and Ground Light Restriction (Auckland international Airport Ltd) Designation 6302 North Island Main Trunk Railway Line (KiwiRail Holdings Ltd)	South Frequent Transit Network: Great South Road FTN Upgrade (NoR 1) Auckland Transport (notified 16 November 2023)
NoR 2 Walters Road Project Area	Designation 200 Ardmore Airport Purposes (Ardmore Airport Ltd Designation 1102 Obstacle Limitation, Runway Protection and Ground Light Restriction (Auckland international Airport Ltd) Designation 6302 North Island Main Trunk Railway Line (KiwiRail Holdings Ltd)	South Frequent Transit Network: Takaanini FTN – Porchester and Popes Road Upgrades (NoR 4) Auckland Transport (notified 16 November 2023)

2.9.1 Overlap with South Frequent Transit Network (South FTN) NoRs

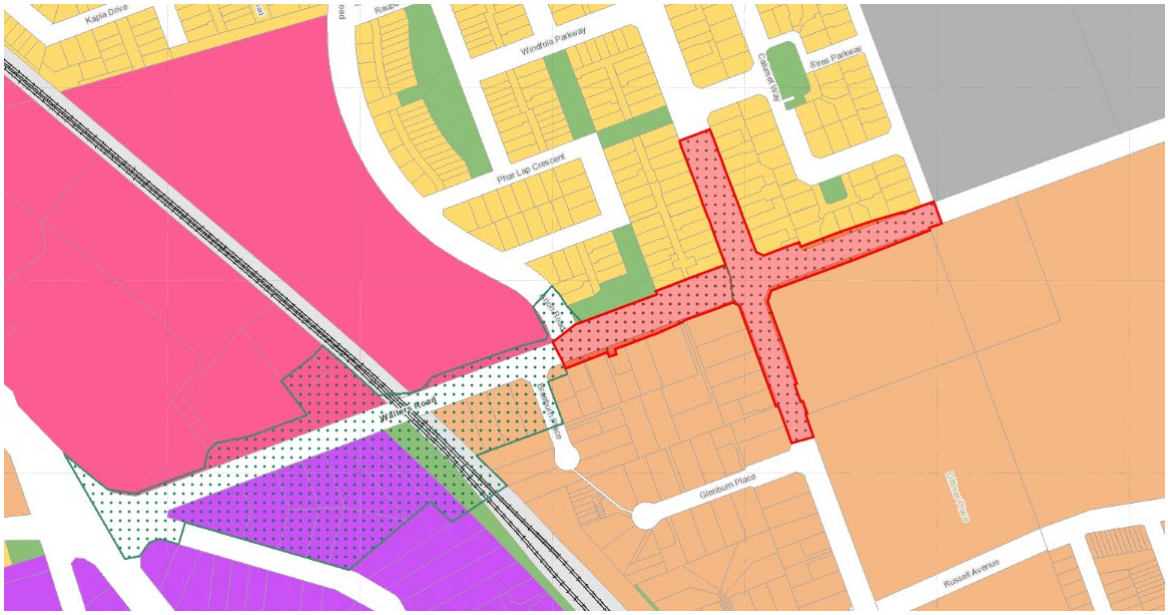
The Takaanini Level Crossing NoRs are being heard at a joint Council hearing with another Supporting Growth (Te Tupu Ngātahi) project - the South Frequent Transit Network Upgrade (South FTN) which consists of four NoRs. Two of the South FTN designations being sought overlap with the Takaanini Level Crossing NoRs designations.

The potential cumulative effects of the overlapping NoRs have not been addressed in the AEE or supporting assessments for the South FTN NoRs.

The map below displays the South FTN: Great South Road FTN Upgrade NoR 1 designation area, shown in red outline, which includes upgrades on the corner of Great South Road and Taka Street. This overlaps with the Takaanini Level Crossing NoR 1 designation (Taka Street project area) shown in green dots on the map below.



The map below displays the South FTN: Porchester and Popes Road Upgrades NoR 4 designation area, shown in red outline, which includes work on the corner of Porchester Road and Walters Road. This overlaps with the Takaanini Level Crossing NoR 2 (Walters Road project area) designation shown in green dots on the map below.



2.10 Future resource consents and approvals

The NoR 1 and NoR 2 Form 18s state that both NoRs may require resource consents for the disturbance of contaminated, or potentially contaminated land under Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011. They are also likely to require resource consents for the following activities under the Auckland Unitary Plan (operative in part): bulk earthworks and associated discharge of sediment, stormwater discharge to land or water, discharge of contaminants to land, water take, use and diversion, and temporary construction works. These consents will be sought when the detailed design for each of the transport corridors is complete. At this stage, no relocation of Transpower's pylons or transmission lines is anticipated and therefore no resource consents will be required under the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009.

3. Consultation

Section 10 of the AEE details the engagement that has been undertaken for the TLC project. This is summarised below.

The engagement described in the AEE has been undertaken throughout various stages of the project, with a range of parties and stakeholders described as partners, elected members, stakeholders, community and potentially affected landowners. A range of engagement methods are also described including both online and in person methods. Appendix A (Assessment of Alternatives) of the AEE, includes further information on engagement outcomes.

Section 10.2 of the AEE outlines the different stages and approach to engagement undertaken throughout the protect. AEE Table 10-1 provides a summary of the purpose of engagement undertaken at the following three stages:

- Indicative Business Case (IBC) 2018-2019
- Detailed Business Case (DBC) 2022
- Pre-lodgement of NOR 2022-2023.

Section 10.3 of the AEE outlines the Project approach to engagement with Mana Whenua, which is described as a partnership. The AEE describes this partnership as being:

> *… a commitment to ongoing and regular engagement with Manawhenua at all levels (including governance and kaitiaki) in a manner that is open and transparent to ensure Manawhenua continue to have the space and resources to influence decision making at all phases of the Project.*

Section 10.3.1 describes the partnership and which Mana Whenua groups have participated through the previous stages of this Project. In relation to the detailed business case and NOR phases the AEE states:

The Project Team's close engagement with Manawhenua during the DBC process has led to careful consideration of values, issues, concerns, and considerations pertinent to Manawhenua into the Project Team's decisions. The Project Team recognise the importance of te taiao to Manawhenua. In particular, through ongoing kōrero at the Southern Te Tupu Ngātahi hui, it was acknowledged that the environment is steeped in cultural history for iwi Māori through whakapapa, and the interconnectivity of people, place, and nature. Te Tupu Ngātahi will continue to engage with Manawhenua as project partners as the TLC progresses and a monthly Manawhenua forum for operational and kaitiaki level interaction will be maintained.

The cultural values and narrative shared by Manawhenua through the ongoing kōrero has guided development of the proposed Project conditions (contained in Volume 1). These conditions sets out a framework to identify Project specific opportunities to acknowledge and respond to the cultural landscape within the project areas and surrounding areas. In particular, the condition set includes the Manawhenua Partnership condition which is intended to facilitate continued participation by Manawhenua as project partners at the detailed design and implementation stages of the Project.

Section 10.4 of the AEE outlines previous engagement undertaken for the project. Table 10-2 describes engagement activities by the following stakeholder groups:

- Partners
- Elected members
- Local stakeholders
- Potentially affected landowners
- Community.

Table 10-3 provides a summary of comments under the following key themes:

- Requests for more information
- Utilising underground space at Walters Road
- Potential closures of the Spartan Road and Manuroa Road level crossings
- Grade separation at Takaanini Train Station
- Active modes
- Amenities
- Approach to community engagement.

The Appendix A (Assessment of Alternatives) of the AEE includes specific feedback on option development, assessment process and how this has been considered in the development of the Project. The AEE also highlights that various technical assessments accompanying the AEE address some of the key themes listed above.

Section 10.5 of the AEE outlines engagement undertaken during the NOR phase and includes:

- Auckland Council officers
- Kāinga Ora
- Local boards and elected members
- Auckland Council Community Facilities – Parks
- KiwiRail
- Network utility providers

- Directly affected landowners.

Section 10.6 of the AEE summarises:

> *Engagement has occurred for the TLC through all project stages which includes the IBC, the DBC (including options assessment) and NoR preparation stages. Engagement has been with partners, other network providers, stakeholders, directly affected landowners, and the wider community. Engagement has been used by the Project Team to inform and as appropriate update, change or refine the Project provided for by the NoRs as well as the proposed designation boundaries.*

The AEE states that on-going and future engagement will be undertaken with directly affected landowners as required and highlights the proposed conditions set out in Volume 1 include specific provision for ongoing engagement. The AEE highlights the proposed condition requiring a SCEMP to be prepared to identify how the public and stakeholders will be communicated with, and the proposed Mana Whenua Kaitiaki Forum Condition which will provide for ongoing partnership with Mana Whenua.

4. Notification, submissions and local board views

4.1 Notification

The Notices of Requirement were publicly notified on 16 November 2023.

The closing date for submissions was 14 December 2023.

A 'Friend of Submitter' was employed as an independent advisor to help submitters. The Friend of the Submitter's role was to help explain the process, advise people about lodging their submission, how to express their views, and what to do after lodging their submission. Notification documents advised that this service was available throughout the submission period and in the lead-up to the hearings.

Friend of Submitter drop-in sessions were notified as available at the below locations:

Takaanini Community Hub

- Saturday 25th November 2023 – Te Wao Nui a Taane room (10am – 1pm)
- Monday 4th December 2023 – Te Wao Nui a Taane room (4pm-7pm).

Manurewa Library

- Monday 27th November 2023 - Manurewa Library quiet room (4pm – 7pm)
- Saturday 9th December 2023 – Manurewa Library Community room (9am – 12pm).

4.2 Submissions

Submissions were received from the following submitters:

NoR 1 Submitters

Submitter number	Submitter Name	Support / Oppose
1	Pam Scott Family Trust	Oppose
2	A1 Auto Panel and Paint	Oppose
3	Johnstone Properties Partnership	Oppose
4	Takanini Business Association Inc	Oppose
5	Brian Hogan	Oppose
6	Carter Building Supplies	Oppose
7	Portsmouth Family Trust	
8	Telecommunications Submitters	
9	Anil Kumar	Support
10	Matthew Koppens & Denise Ibbett	Oppose
11	Oceania Healthcare	Oppose
12	B&F Papers Ltd	Oppose
13	The Runciman Trust	Oppose
14	AtSource	Oppose
15	Aintree Group Ltd	Oppose
16	By Design Concrete and Paving Limited	Oppose
17	DDI Takanni Investments Limited	Oppose
18	Dealership Properties Limited	Oppose
19	Miriam Chisnall	Oppose
20	New Zealand Steel Limited	Support in part
21	Silverfin Capital Limited	Oppose
22	Big Rock Commercial Ltd and Matthew Koppens Ltd	
23	BP Oil New Zealand Limited	Oppose
24	BNAP Holdings Ltd	Oppose
25	Takanini Residents Action Group	Oppose
26	Supreme Sikh Society of NZ	Oppose
27	H20 Pipelines Ltd	Oppose
28	On Track Trust	Oppose
29	Halls Transport	
30	Tahua Partners Limited	Oppose
31	Vertex Lubricants	Oppose
32	Durmast Holdings Ltd	Oppose
33	KiwiRail Holdings Limited	Support
34	Auckland Council Parks and Community Facilities	Oppose
35	Withdrawn	
36	Ministry of Education	
37	Takanini Village Limited and Tonea Properties (NZ) Limited	
38	Sunlight Holdings Limited and South Auckland Marine Limited	
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited	
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.	
41	Watercare Services Limited	Neutral

Submitter number	Submitter Name	Support / Oppose
42	Z Energy Limited	
43	Kāinga Ora	Support in part
44	DR Levene & JAG Kearns & MA Levene & DW Tibby and EA Levene (The Levene Foundation)	Support
45	Basil Kuriakose Portrush Lane and 6 Signatories	
46	Takanini Rentors Limited	

NoR 2 Submitters

Submitter number	Submitter Name	Support / Oppose
1	Mead Trusts Holdings Ltd - Carters Takanini	Oppose
2	Ting-Chun Cho	Support
3	Takanini Business Association Inc	Oppose
4	Krittibas Dasgupta	Oppose
5	Carter Building Supplies	Oppose
6	Re-allocated to NoR 1	
7	Telecommunications Submitters	
8	Van Den Brink 254 Limited	Support
9	Brian Hogan	Oppose
10	Alda Investments Ltd	Oppose
11	DE Nakhle Investment Trust	Oppose
12	KiwiRail Holdings Limited	Support
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose
14	Auckland Council Parks and Community Facilities	Oppose
15	Takaanini Childcare Investments Ltd	Oppose
16	Ministry of Education	
17	Takanini Village Limited and Tonea Properties (NZ) Limited	
18	Sunlight Holdings Limited and South Auckland Marine Limited	
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited	
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.	
21	Watercare Services Limited	Neutral
22	Z Energy Limited	
23	Kāinga Ora	Support in part
24	Manpreet Kaur	Oppose

One submission (NoR 1 Submission 35) has been withdrawn.

One submission from Basil Kuriakose Portrush Lane and 6 Signatories has been reallocated from NoR 2 (NoR 2 Submission 6) to become NoR 1 (NoR 1 Submission 45).

One submission relates to NoR 2 but incorrectly used the submission form for North NoR 4. The submission was received within time, and has been confirmed as relating to NoR 2 (NoR 2 Submission 24 Manpreet Kaur)

Two late submissions have been received (NoR 1 Submission 44) and NoR 1 Submission 46).

On 18 December 2023, a late submission from The Levene Foundation that was lodged on 15 December 2023 in respect NoR 1 (NoR 1 Submission 44) was accepted as a late submission in accordance with section 37A(4)(b)(ii) of the RMA by the council's Manager Central South Planning.

On 29 February 2024 the Hearing Panel directed (in its Hearing Direction 2), under section 37A of the RMA, that the late submission from Takanini Rentors Ltd that was lodged in respect of NoR 1 (NoR 1 Submission 46) be accepted as a late submission in accordance with section 37A(4)(b)(ii).

Copies of submissions lodged against each of NoR 1 and NoR 2 are in **Attachment 1** to this report.

A Summary of Submissions has been prepared for each of NoR 1 and NoR 2. Those Summaries of Submissions are provided in **Attachment 3** to this report.

Some submitters have lodged submissions with either the same or different wording against both NoRs. These submissions have been given a separate submission number for each NoR. The submission points relating to the separate NoRs have been listed in the Summary of Submissions for the particular NoR they relate to, with common matters being listed the summaries for each NoR.

For NoR 1:

- One submission requested that the NoR be confirmed
- Two submissions supported the NoR
- Three submissions supported the NoR in part
- 21 submissions sought that the NoR be withdrawn or declined
- 28 submissions opposed the NoR.

For NoR 2:

- Three submissions supported the NoR
- One submission supported the NoR in part
- Eight submissions sought that the NoR be withdrawn or declined
- 10 submissions opposed the NoR.

Some submitters have lodged submissions with either the same or different wording against both NoRs. These submissions have been given a separate submission number for each NoR. The submission points relating to the separate NoRs have been listed in the Summary of Submissions for the particular NoR they relate to, with common matters being listed the summaries for each NoR

The issues raised in submissions include those shown below in the Submission Issues Table below.

The Summaries of Submissions allocate the submission issues to the topics under which they are reported in the specialists' reports and within this s42A report.

The matters raised in submissions have been considered alongside the assessment of adverse effects, the relevant statutory provisions, and the recommended conditions to be included in each NoR. Where relevant, council's specialists' reports list the submissions relating to their discipline, and the issues raised in those submissions are addressed in detail in the specialists' reports. Some submissions are considered in multiple specialists' reports.

Submission issues include:

Positive effects
• Support for less traffic congestion • Support for active mode pedestrian and cycleways • Support for safety improvement projects for both vehicles and pedestrians • Improvement of rail corridor efficiency and safety
Traffic and Transport

• Operational Effects
• Assessment of Alternatives
  ○ Assessment is deficient
  ○ Inadequate assessment – request underpass
  ○ Grade separation options
  ○ Assessment of alternative alignments (Manuia Road bridge)
• Access to wider network
  ○ Spartan Road
  ○ Legible access to public transport (9-13 Taka Street)
  ○ 1 and 15 Spartan Road
• Assessment of effects
  ○ Assessment not proportional to the effects
  ○ Assessment of effects on freight inadequate
  ○ Walters Road / Great South Road intersection
  ○ FDS not taken into account in assessment
• Network Operation
  ○ Capacity of Great South Road intersections
  ○ Capacity of Manuia Road
  ○ General capacity of east-west links
  ○ Capacity of Oakleigh Road
  ○ Effects on transport including freight
  ○ Effects on Walters Road and Walters Road / Tironui Road
  ○ Capacity of Walters Road
  ○ Traffic volumes on Walters Road differ between NoR 2 and South FTN NoR 4
  ○ Effects on Arion Road
• Freight
  ○ Trucks on Manuroa Road and freight routes / over dimension routes

- Effects of closing Spartan Road on diversion of heavy vehicles
- No assessment of heavy vehicles on Hitchcocks Road
- Access to premises at 26 Oakleigh Avenue

- Parking
  - Removal of on-street parking
  - Removal of on-site parking – General
  - Removal of on-site parking – site specific:
  - 18 Manuroa Road
  - 9-13 Taka Street
  - 37-39 Oakleigh Avenue
  - 1-15 Spartan Road
  - Takanini Town Centre
  - 12 Walters Road
  - 20A Walters Road
  - Southgate Shopping Centre

- Property Access
  - General
  - 18 Manuroa Road
  - 9-13 Taka Street
  - 33 Oakleigh Avenue
  - 37-39 Oakleigh Avenue (truck access)
  - 16 Spartan Road
  - 20 Spartan Road
  - 22 Oakleigh Avenue
  - 1 and 15 Spartan Road
  - 106 Great South Road
  - Takanini Town Centre (30 Walters Road)
  - 12 Walters Road, 230 Great South Road
  - 166-168 Great South Road

- Changes to proposals requested
  - Future proofing for Mill Road / implement Mill Road project
  - Amend Manuia Road / Oakleigh Avenue roundabout layout
  - Amend Oakleigh Avenue / Spartan Road intersection layout
  - Widen Manuroa Road
  - Traffic signals at Oakleigh Road / Manuroa Road

- Safety
  - Cyclist safety (Spartan Road)
  - Pedestrian safety (Oakleigh Avenue)
  - Ped / cycle safety Spartan and Manuroa Road bridges
  - Operation of Walters Road

- Effects on operation of sites
  - 72-86 Great South Road
  - 16 Spartan Road
  - 102 Great South Road
  - Severance from other site operations (1-15, 58 and 81 Spartan Road)

- Assessment of effects on 166-168 Great South Road
- Effects on infrastructure on 166-168 Great South Road
- 1-3 Walters Road
- 12 Walters Road
- 20A Walters Road

- Pedestrians / Cyclists
  - Accessibility of Spartan Road and Manuroa Road bridges
  - Investigate alternative connections to Takanini station
  - Pedestrian connections on Tironui Road

- Design detail
  - Lack of sufficiency of design detail
  - All bridges should be multi-modal
  - Length of Walters Road bridge
  - Certainty of design between NoR 2 and South FTN NoR 1 on Walters Road
  - Effects of design on 164-166 Porchester Road (Walters Road frontage)

- Conditions
  - Future proofing for widening of rail corridor

- Construction Traffic Effects

- Construction staging
  - Timing of level crossing closures for construction
  - Effects on freight
  - Inadequate assessment of traffic effects in vicinity of Takanini Town Centre

- Property Access
  - 18 Manuroa Road
  - 9-13 Taka Street
  - 33 Oakleigh Avenue
  - 37-39 Oakleigh Avenue (truck access)
  - 16 Spartan Road
  - 164-166 Porchester Road (Emergency access)
  - 12 Walters Road

- Car Parking removed
  - 9-13 Taka Street
  - General
  - Takanini Town Centre
  - 12 Walters Road

- Pedestrians
  - Pedestrian connections

Landscape and Visual

- NoR 1:
  - Interface of the Project with the surrounding area

- Shortcomings in the assessment of alternatives (overbridge vs underpass)
- Adverse landscape character and visual amenity effects
- Impact on existing site infrastructure

- NoR 2:
  - Interface of the Project with the surrounding area
  - Adverse landscape character and visual amenity effects
  - Shortcomings in the assessment of alternatives, (overbridge vs underpass)

Noise and Vibration

- Construction noise and vibration
- Permanent (operational) noise and vibration

Arboricultural

- Tree removal

Stormwater and Flood Hazard

- Flood hazard issues
- Stormwater

Geotechnical

- Assessment of Alternatives – Geotechnical Aspects
- Adverse Geotechnical Effects

Social Impact

- Social effects of designation prior to construction
  - Extended length of NoR designation
  - NoR effects on property sale/value/development
  - Consultation limitations
  - Assessment of alternatives
- Social effects of construction
  - NoR effects on physical operation of businesses
  - Health and safety
  - Parks, open space, and education
  - Social cohesion and social equity
- Social effects of operation
  - NoR effects on physical operation of businesses
  - Residential amenity
  - Urban design
  - Health and safety
  - Parks, open space, and education
  - Social cohesion and social equity
  - NoR Conditions

Urban Design

- Scale and massing effects
- Safety of future environments for walking, cycling and the prospect of the resultant environment generating opportunities for anti-social behaviour and crime
- Legible and connected spaces

Property and Land Use

- Extent of designation boundary
- Requests for review of extent required for construction and for operation
- Site operation and property use
- Uncertainty of works required
- Effects on property value/sale/development
- Lapse period

Parks Planning

- NoR 1:
    - Adverse effects on physical assets within 24R Taka Street / Takaanini Reserve
    - Adverse effects on council reserves at 2R Challen Close, 8 Takanini Road, 103R Manuroa Road, 16R Reding Street, 2 Popes Road, 48R Rangi Road
    - Adverse effects on elderly housing facility at 12 Challen Close
    - Adverse effects on walkway at 20W Challen Close
    - Adverse effects on stormwater drainage area at 354F Porchester Road, stormwater drainage pond open space at 35R Spartan Road, drainage reserve at 50R Rangi Road, drainage reserve at 8R Scotts Field
- NoR 2:
    - Loss of vegetation such as in Arion Road.
    - Adverse effects on council reserve at 40R Walters Road from loss of land
    - Adverse effects on 30 Walters Road –
    - Adverse effects on 1-3 Walters Road
    - Adverse effects on 12 Walters Road
    - Adverse effects on 20A Walters Road and 230 Great South Road

Network Utilities and Development Engineering)

- Effects on other infrastructure – e.g. Watercare, Telecommunication Providers
- Property access during and after construction (excluding social effects items)
- Construction Effects
- Network utility operators

Other matters raised

- Use of management plans
- Future Development Strategy

4.3 Local Board Views

Both NoRs are within the Papakura Local Board area. Two other local board areas are close to the NoR areas: the Manurewa Local Board boundary is just north of the Papakura Stream, and the Franklin Local Board's boundary with Papakura Local Board in Takanini runs along Mill and Cosgrave Roads. The Ōtara-Papatoetoe Local Board has also requested to be updated about the project.

The Te Tupu Ngātahi Supporting Growth project team have provided updates to these four local boards. These included specific engagement with the Papakura Local Board in 2023 to share an independent peer review of the recommendation regarding the preference for a road over rail bridge at Walters Road

After notification, the proposal was considered at local board meetings by the Papakura Local Board on 13 December 2024, the Manurewa Local Board on 7 December 2024, the Franklin Local Board on 12 December 2024, and the Ōtara-Papatoetoe Local Board 5 December 2024. All four local boards provided views on the NoRs, which are provided in full in **Attachment 2** to this report.

Council's experts have reviewed the local boards' comments.

5. Consideration of the notice of requirement under the Resource Management Act 1991

The RMA provides that the procedures adopted in processing a notice of requirement are generally those adopted for processing a resource consent application. This includes lodgement, requiring further information, notification, receiving and hearing of submissions. In respect of this NoR, all of those procedures have been followed.

The procedure differs from the resource consent process in respect of the council consideration of the NoR. Section 171(1) of the RMA states:

(1) When considering a requirement and any submissions received, a territorial authority must, subject to Part 2, consider the effects on the environment of allowing the requirement, having particular regard to—

(a) any relevant provisions of—

(i) a national policy statement:

(ii) a New Zealand coastal policy statement:

(iii) a regional policy statement or proposed regional policy statement:

(iv) a plan or proposed plan; and

(b) whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work if—

(i) the requiring authority does not have an interest in the land sufficient for undertaking the work; or

(ii) it is likely that the work will have a significant adverse effect on the environment; and

(c) *whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority for which the designation is sought; and*

(d) *any other matter the territorial authority considers reasonably necessary in order to make a recommendation on the requirement.*

Section 171(1)(a) is addressed in sections 5.2, 5.3 and 5.4 of my report below. Section 171(1)(b) is addressed in section 5.5 of my report below. Section 171(1)(c) is addressed in section 5.6 of my report below. Section 171(1)(d) is addressed in section 5.7 of my report below.

Section 171(1) is subject to Part 2 of the RMA. Part 2 contains the purpose and principles of the RMA. It has been confirmed by the Environment Court that, in relation to a designation matter:

…all considerations, whether favouring or negating the designation, are secondary to the requirement that the provisions of Part II of the RMA must be fulfilled by the proposal.[1]

After considering these matters, the council needs to make a recommendation to the requiring authority under section 171(2) of the RMA which states:

(2) The territorial authority may recommend to the requiring authority that it –

(a) *confirm the requirement:*

(b) *modify the requirement:*

(c) *impose conditions:*

(d) *withdraw the requirement.*

Reasons must be given for the recommendation under section 171(3) of the RMA. Refer to section 7 of my report below for my recommendations.

5.1 Effects on the environment

Effects on the environment are addressed in section 11 of the Requiring Authority's AEE.

5.1.1 Effects to be disregarded - Trade competition

I do not consider that there are any trade competition effects.

5.1.2 Effects that may be disregarded – Written approvals

No written approvals were included with NoR 1 or NoR 2.

[1] See Estate of P.A. Moran and Others v Transit NZ (W55/99)

5.1.3 Use of Management Plans

The Requiring Authority proposes to use management plans to address the majority of anticipated environmental effects, and these have been offered as conditions of consent. If confirmed, the management plans would provide the framework to guide the final design of the various components of the NoRs as well as to avoid, remedy mitigate or manage the adverse effects of the construction activities associated with the implementation of the project. Detailed assessment and implementation would occur at the Outline Plan of Works stage. The following management plans have been proposed as conditions by the Requiring Authority for both NoRs:

- Construction Environmental Management Plan (CEMP);
- Construction Noise and Vibration Management Plan (CNVMP)
- Construction Traffic Management Plan (CTMP)
- Tree Management Plan (TMP)
- Network Utilities Management Plan (NUMP)
- Stakeholder Communication and Engagement Management Plan (SCEMP)
- Urban and Landscape Design Management Plan (ULDMP).

I generally support the use of management plans at the NoR stage of a designation, and council's specialists have had regard to the structure, scope, adequacy and efficacy of each management plan offered as part of the assessment of these NoRs.

5.1.4 Positive Effects

Requiring Authority AEE

Section 11.1 of the AEE describes the positive effects of the Takaanini Level Crossings Project, including a fundamental positive effect of the project providing a direct response to the existing transport network deficiencies and anticipated issues in the Takanini and wider south area. The positive effects of the project are summarised in AEE Table 11-1.as:

- Network integration and safety
- Urban integration
- Environmental and sustainability outcomes
- Socio-economic.

Council Specialist Reviews

Council specialists' reports are provided in **Attachment 5** to this report. Submissions relating to positive effects have been considered in their review of topic submissions and are referred to by them where relevant. The following five council's specialists specifically refer to positive effects in their evaluations:

Traffic and Transport

Mr Martin Peake from Progressive Transport Solutions Limited has prepared a technical memo on behalf of council covering his assessment of the submitted documents, response to relevant submissions and recommendations "Technical Specialist Memo Takanini Level Crossings Notice of Requirement 1 and Notice of Requirement 2 Traffic and Transportation Assessment", Martin Peake, Progressive Transport Solutions Limited, 28 February 2024.

In respect to positive effects, Mr Peake's comments are:

- the Manuia Road bridge will also reduce general freight from Manuroa Road as freight from the industrial area will no longer need to travel along Manuroa Road to reach Great South Road. He identifies this as a positive effect.
- whilst he agrees that there will be crash savings with the project, he considers that the benefits presented in the ATE are overstated.
- safety at the level crossings will be improved but he considers that the safety benefits across the network are overstated. Notwithstanding overall, he considers the safety objective of the project would be met by the project.
- Mr Peake requests a considerable amount of further information from the Requiring Authority.

Landscape and Visual

Mr Rob Pryor from LA4 Limited has prepared a technical memo on behalf of council covering his assessment of the submitted documents, response to relevant submissions and recommendations. "Technical Memorandum for Notices of Requirement (NoRs) Takaanini Level Crossings Project", Rob Pryor, LA4 Limited, 6 March 2024

In respect to positive effects, Mr Pryor's comments are:

- he notes the Requiring Authority's Landscape Visual assessment states that there are a number of positive effects of the overall project (Section 5.1)
- The project includes the provision of new transport infrastructure within the Takaanini urban environment. This new infrastructure has the potential to provide positive effects through the design which can include landscape planting, safety improvements and a design which seeks to mitigate and integrate these elements into the surrounding urban environment.
- Mr Pryor acknowledges that compliance with management plan documents will assist with the ongoing avoidance, remediation and mitigation of adverse landscape and visual effects and ensure an integrated and positive outcome. He comments that positive landscape effects can be facilitated through the NoRs and associated conditions.

Social Impact

Ms Rebecca Foy of Formative Limited has prepared a technical memo on behalf of council covering her assessment of the submitted documents, response to relevant submissions and recommendations: "Technical specialist report to contribute towards Council's section 42A hearing report – Takaanini Level Crossings NoR 1 and NoR 2 Social Impact Assessment", Rebecca Foy, Formative Limited, 5 March 2024.

In respect to positive effects, Ms Foy comments that:

- Some parts of the community may view public investment in major projects as a major positive outcome for the local community and private developer activity may be stimulated as a consequence of public investment.
- The community may feel reassured and positive that navigating the transport network will become safer due to the proposed changes and the presence of more people in the location during construction.

- Positive economic effects such as upskilling of the local workforce and improved economic efficiency of businesses reliant on transport networks.
- There may be positive effects on residential and commercial amenity due to the removal of conflict, noise, and idling traffic.
- There may be some positive impacts and aspirations that arise from expected future investment in Takaanini, including the provision of more certainty about opportunities for future development around the transport network. There may be more local employment and training opportunities.
- Some local businesses may benefit from increased patronage from construction workers – i.e. cafes & food businesses.
- There may be increased demand for goods and services through procurement opportunities for local and Māori owned businesses to subcontract to the primary contractor.
- There are likely to be positive amenity impacts for residential homes close to the railway where Manuroa Road is severed due to lack of noise from bells, train horns, and traffic movements.
- There are some opportunities for land that is not required post construction to be reintegrated with the surrounding area.
- There will be better travel mode choices, including safer active modes and rail networks, and more certainty for vehicle movements due to the removal of traffic congestion and delays, reducing stress for commuting and travelling around the community on a daily basis.
- There will be improved modal choices for accessing parks, open spaces, recreational facilities, shops, and services.
- The connectivity between eastern and western parts of Takaanini will be improved by removing the NIMT severance effect.
- Connections and investor confidence may be enhanced.
- Local people who have developed skills by being involved in the construction process may have improved work pathways leading to employment in other projects.
- The rail network for public and freight transport is likely to improve with greater frequency and less delays, which can lead to positive economic effects and increased commercial investment.
- General improvements to property values due to the improved transport infrastructure and urban design.
- There will be safety improvements, through the removal of conflict between rail and road users, leading to fewer deaths and serious injuries.
- There may be improvements to emergency services response times due to no longer waiting at level crossings.
- People may be more confident to travel using active modes due to improved safety, and there will be health and wellbeing benefits from this activity.
- Potential to incorporate cultural values and aspirations in bridge structures through design elements.
- By removing the barrier arms and alarms there will be less visual intrusion and noise associated with the rail line which may result in amenity improvements.

- Positive effects of opportunities for small children to learn about construction equipment while works are undertaken
- The NoRs will have significant positive outcomes for the wider communities by removing safety and congestion issues associated with the existing level crossings which are likely to become worse in the future.

Parks Planning

Mr Andrew Miller from CoLab Planning has prepared a technical memo on behalf of council covering his assessment of the submitted documents, response to relevant submissions and recommendations: "S42A Report on the Takanini Level Crossing Notices of Requirement – Parks Planning", Andrew Miller, CoLab Planning), 7 March 2024.

- In respect to positive effects, Mr Miller suggests that NoR 1 would likely create additional open space opportunities in Takanini.

Urban Design

Mr Jason Evans from ET Urban Design Ltd has prepared a technical memo on behalf of council covering his assessment of the submitted documents, response to relevant submissions and recommendations: "Proposed Notice of Requirement (NoR 1) and NoR 2 Takaanini Rail Crossings", Jason Evans, ET Urban Design Ltd, 7 March 2024.

- In respect to positive effects, Mr Evans acknowledges additional planting and naturalised stormwater treatment, and safe movement would be positive elements, but still has several key concerns about the project.

Submissions

- Positive effects raised in submission include:
    - Support for less traffic congestion
    - Support for active mode pedestrian and cycleways
    - Support for safety improvement projects for both vehicles and pedestrians
    - Improvement of rail corridor efficiency and safety.

Planning Review

I generally agree with the Requiring Authority's assessment that the NoRs have positive effects. Council's specialists have requested a considerable amount of further information from the Requiring Authority and when provided, this information may provide further information about the extent of positive effects of the project. Requests from specialists are set out in the topic evaluations below. I acknowledge that positive effects must be taken into account when balancing any adverse effects on the environment.

5.1.5 Actual and Potential Adverse effects

The AEE for the NoRs has included assessment of construction phase effects and operational effects. The NoRs are primarily for route protection rather than implementation and the construction effects are proposed be managed by detailed design, management plans and construction contracts at the time construction begins.

Specialist Effects Evaluations

The following effects evaluation discussion addresses the overall environmental effects in the order those specialist areas are addressed in the AEE, with the addition of more detailed discussion of geotechnical effects, parks planning effects, and development engineering effects. The relevant council specialists' reports are referred to and are provided in **Attachment 5** to this report. Submissions have also been considered and are referred to where relevant.

- Traffic and Transport
- Landscape and Visual
- Noise and Vibration
- Arboricultural
- Terrestrial Ecology
- Stormwater and Flood Hazard
- Geotechnical
- Social Impact
- Urban Design
- Property and Land Use
- Parks Planning
- Historic Heritage and Archaeology
- Network Utilities and Development Engineering)
- Māori Culture, Values and Aspirations.

Note

A single annotated set of proposed conditions is attached as **Attachment 6** to this report. Like the combined conditions common to the Form 18 notices for each NoR application, these conditions specify whether the condition relates to NoR 1, NoR 2, or to both NoR 1 and NoR 2.

Where amendments to the conditions are recommended, the annotations also specify which expert topic evaluation suggested each amendment.

I note that the Requiring Authority has lodged separate NoRs, and the hearing panel will need to provide separate recommendations (and conditions as appropriate) for each of NoR 1 and NoR 2. I consider that the most practical way for the condition contents to be debated at the hearing is to use the single set of annotated combined conditions (as set out in **Attachment 6** to this report). A number of the proposed conditions are common to both NoRs, there are submissions for both NoRs relating to conditions, and there will be queries raised about the proposed conditions in evidence and at the hearing.

5.1.6 Traffic and Transport Effects Evaluation

Requiring Authority AEE

Effects on transport are addressed in section 11.2 of the AEE which refers to the Requiring Authority's technical report "Te Tupu Ngātahi Supporting Growth "Takaanini Level Crossings Assessment of Transport Effects" October 2023 Version 1.0 by Ayeesha Weerappulige, Ivy Wong, Celine Malaluan, Shania Rajanayagam, and Kuan-Wen Sang.

The Requiring Authority's Transport Effects assessment (ATE) is based on both a 2038 forecast year and a 2048 forecast year to account for construction effects and full operational effects respectively. This aligns with the available regional transport models and the likely implementation timeframes for the project.

The Traffic and Transport Assessment methodology assesses the project in the context of the existing and future environment.

Potential operational effects were assessed in terms of alignment with key policy documents, transport planning assessment of expected outcomes and effects, and transport modelling to inform demands and network performance.

The construction transport effects assessment considers:

- A number of scenarios ('construction scenarios') where the level crossings are closed during the construction of a bridge to assess various scenarios of traffic impact on the network;
- Community access and the expected travel time under the different construction scenarios;
- Impact of the construction scenarios on the various transport modes including general traffic, freight, buses, pedestrians and cyclists;
- An overview of key considerations including speed, potential impacts to pedestrians and cyclists and property access; and
- Identification of any works that should not occur at the same time.

The project was divided into three construction 'areas', within which five potential sequencing options were assessed.

High-level recommendations are as follows:

- Manuia Road bridge should be constructed and operational before the level crossings at Spartan Road and Manuroa Road are closed. Ensuring that the Manuia Road bridge is operational before the other crossings are closed will resolve the issues that would have occurred in Scenario 1a and 1b.
- A suitable alternative to facilitate traffic, pedestrian and cyclist movement should be provided for the closure of Taka Street during construction. This could mean the following:
    - Partial closure with some movements retained on Taka Street; and/or
    - Reroute traffic to an alternative connection such as Manuroa Road or Manuia Road (with Spartan Road open in either scenario). This would mean at least three connections are provided in the Takaanini network.
- Continued access to Takaanini Station during construction of the Project will need to be managed via the construction traffic management plan.

- Walters Road is a key connection in the Takaanini network, providing access to the Takanini Town Centre. Not providing a connection at this location will result in a significant gap in east-west connectivity in the network. Hence, offline construction (as much as practicable) is recommended to retain movements in this corridor.
- A suitable alternative to facilitate traffic movement will be provided for the closure of Taka Street and/or Walters Road during construction. This could entail offline construction or partial closure.

As well as sequencing options, these general potential construction traffic effects were identified, and are relevant across multiple scenarios:

- Temporary disruption to people movement and vehicle movement in the area for the indicative construction duration of 2.5 – 3 years;
- Reduced network resilience due to multiple level crossing closures during construction. If one corridor is closed for construction without an alternative, the network will see an increase in congestion and reduction in network resilience;
- Traffic generated during construction, including construction vehicle movements to and from the construction areas, partial or full road closure, temporary speed limits restriction around site access, and impacts to vulnerable road users. Points of conflict along the TLC corridors include access points along each corridor;
- Effects on existing pedestrian access to Takaanini Station from Taka Street and Manuroa Road;
- Access to properties along the TLC corridors may be impacted by temporary traffic management controls during the construction works; and
- Construction vehicles parking in the surrounding network.

Potential operational transport and traffic effects are identified as:

- Closure of Takanini Road at Taka Street affects access to the Takanini Hall
- The current over-dimension freight route is not suitable in the future network due to closure of Manuroa Road level crossing.
- Routing from the businesses on Spartan Road (west of the railway) northbound onto Great South Road and access to SH1 northbound on-ramp are affected due to Spartan Road level crossing closure.
- Potential effects on existing pedestrian access to Takaanini Station from Taka Street and Manuroa Road
- Potential operational and safety risks at the Takaanini Interchange during peak periods.
- Existing property access may be altered in the surrounding network with potential land take.

To avoid, remedy or mitigate these potential adverse effects, the Requiring Authority proposes a number of conditions for both NoR 1 and NoR 2. These conditions include:

- Construction mitigation measures:
    - Construction Traffic Management Plan (CTMP) - Condition 18
    - Construction Environmental Management Plan (CEMP) – Condition 15
    - Stakeholder Communication and Engagement Management Plan (SCEMP) – Condition 9
    - Project information – Condition 2

- Operational mitigation measures:
  - Outline Plan - Condition 7
  - Urban and Landscape Design Management Plan (ULDMP) - Condition 12
  - Existing Property Access – Condition 14.

Council Specialist Review

Mr Martin Peake from Progressive Transport Solutions Limited has prepared a technical memo on behalf of council covering his assessment of the submitted documents, response to relevant submissions and recommendations "Technical Specialist Memo Takanini Level Crossings Notice of Requirement 1 and Notice of Requirement 2 Traffic and Transportation Assessment", Martin Peake, Progressive Transport Solutions Limited, 28 February 2024

Mr Peake states that the following information requested in s92 Requests for Further information was either incomplete or did not provide sufficient information for him to provide a fully informed opinion of the traffic and transportation effects of the proposals:

a) Further analysis and detail of traffic delays and queues associated with the Takanini Interchange and effects on the operation of Great South Road, including the Great South Road / Manuia Road intersection.

Mr Peake considers the key traffic and transport issues in relation to the Notices of Requirement are:

From Table 1 - Summary of Key Traffic and Transportation Issues from "Technical Specialist Memo Takanini Level Crossings Notice of Requirement 1 and Notice of Requirement 2 Traffic and Transportation Assessment", Martin Peake, Progressive Transport Solutions Limited, 28 February 2024

Notice of Requirement	Key Traffic and Transportation Issues	Paragraph Ref in Mr Peake's report.
All NoRs	Construction Effects: a) Extent and significance of traffic effects over the whole period of the construction of all TLC projects b) Effects on diverted traffic to Subway Road c) Effects of on pedestrians and cyclists, particularly with potential closure of crossings of the railway line at Takanini Station and Tironui Station Operational Effects: Network Effects d) Effects of staged implementation of individual level crossings. e) Effects on access to the strategic road network are underrepresented.	4.3.17 to 4.3.19 4.3.23 4.3.24 4.1.15 and 4.1.16 4.4.17 to 4.4.29 4.4.31

	f) Resilience of network to accommodate incidents on Manuia Road bridge. g) Effects on on-street parking and off-street parking not sufficiently addressed in conditions.	4.4.55 to 4.4.56
NoR 1	Construction Effects a) Effects on Spartan Road businesses west of railway line and routeing of heavy vehicles b) Timing of construction of TLC projects Operational Effects c) Effects on Spartan Road businesses west of railway line and routeing of heavy vehicles d) Effect on the safe and efficient operation of the Spartan Road / Oakleigh Avenue cross-roads intersection e) Efficient operation of Manuia Road / Great South Road intersection and effects on Manuia Road bridge. f) Safe access to Manuia Road from Manuia Road bridge g) Forecast use of Spartan Road and Manuroa Road by pedestrians and cyclists with active modes bridge is forecast to reduce with the project. h) Effect on the safe and efficient operation of the Manuroa Road / Oakleigh Avenue cross-roads intersection i) Effect of designation on 18 Manuroa Road	4.3.21, 4.4.33 and 4.5.6 to 4.5.7 4.3.22 4.5.6 to 4.5.7 4.5.9 4.4.25 to 4.4.29 4.5.14 to 4.5.16 4.4.46 to 4.4.49, and 4.5.10, 4.5.23 4.5.24 4.5.25 and 4.5.26
NoR 2	Construction a) Effects on Takanini Town Centre if Walters Road is closed for construction. Operation b) Effect on access to Takanini Town Centre and requirement to provide access. c) Suitability of accessways on the western side of the railway line at Walters Road to accommodate large turning vehicles.	4.3.25 to 4.3.26 4.4.62 and 4.5.40 4.5.39

Analysis of AEE

Mr Peake has reviewed the general approach to the methodology and is satisfied that the approach is appropriate for assessing the transport effects of the NoRs. He concurs that there will be some uncertainty in terms of the future traffic environment as this will be partly dependent on future residential and industrial development in the area and within the wider region and the implementation of transport projects. The Future Development Strategy has now been approved and this may have an effect on the rate or scale of development within the Takanini area and thus the potential timing of elements of or the whole project. Whilst not discussed by Mr Peake, I observe that changes to the Government's policy direction with regard to land use planning and its currently evolving detail may also have an effect on the rate or scale of development within the Takanini area.

For the operational effects, assessment has been made by the Requiring Authority on the basis of the TLC projects having been completed. As the projects will be staged in their implementation, there will be periods where there may be effects that would need to be managed until they are all complete. Given the number of permutations involved, and the uncertainties in the relative timing of the TLC projects, Mr Peake considers that there would be limited benefit of undertaking such an assessment at this time, although the assessment of the construction effects does partly take that into consideration.

Due to the practicality of determining effects of the staged construction of the NoRs at this stage (with NoR 1 in particular), Mr Peake considers that NoR conditions are required to ensure that the interim effects prior to the completion of both NoR 1 and NoR 2 are appropriately assessed and adverse effects are able to be mitigated.

Mr Peake generally agrees with the description of the existing transport environment and considers that the assumptions around the future transport environment appear reasonable.

Mr Peake notes that the Requiring Authority's ATE advises that there is a business case reviewing the prioritisation of closure of level crossings across the Auckland rail network and therefore the potential timing or prioritisation of the closure of the four TLCs was unknown at the time the ATE was prepared. Therefore, the ATE has assessed a number of scenarios to consider the sequence of constructing the projects and the effects on the transport network.

Mr Peake considers that the construction scenario assessment approach is appropriate. He considers however that there is likely to be on-going construction related effects for an extended period of time. He considers the effects on diversion of traffic and pedestrians/cyclists and disruption to people in the local area may be significant when considered over the duration of the whole construction period. The effects could include congestion and delays in the vicinity of the TLC projects, but also further to the south at Subway Road in Papakura. He therefore considers that it is important that the NoR conditions ensure that the TLC projects are appropriately staged and coordinated to mitigate the effects of the construction of the various TLC projects and that the conditions manage the effects of the different road users / transport modes.

Mr Peake assesses the proposal in detail by project area, operational effects, and construction effects. His analysis includes site specific references and recommendations.

Submissions

Mr Peake has reviewed the submissions and issues relevant to traffic and transport are discussed in considerable detail in his report. Due to the extent of submissions on this topic, themes have been identified and, these have been discussed together. Where submissions relate to site specific

matters, these have been addressed separately. The themes that have been identified are outlined in the table below:

Table 1 - Summary of Submission Themes from "Technical Specialist Memo Takanini Level Crossings Notice of Requirement 1 and Notice of Requirement 2 Traffic and Transportation Assessment", Martin Peake, Progressive Transport Solutions Limited, 28 February 2024

Submission Topic	Sub-issue	Submission	
		NoR 1	NoR 2
Operational Effects			
Assessment of Alternatives	Assessment is deficient	31	
	Inadequate assessment – request underpass	4	3
	Grade separation options	5, 10, 13, 14, 24, 37,38,39,40	9, 15,17, 18,19,20
	Assessment of alternative alignments (Manuia Road bridge)	10, 22	
Access to wider network	Spartan Road	2, 10	
	Legible access to public transport (9-13 Taka Street)	11	
	1 and 15 Spartan Road	21, 29	
Assessment of effects	Assessment not proportional to the effects	37, 38, 39, 40	17, 18, 19, 20
	Assessment of effects on freight inadequate	31, 37, 38, 39, 40	17, 18, 19, 20
	Walters Road / Great South Road intersection		19, 20
	FDS not taken into account in assessment		10, 11
Network Operation	Capacity of Great South Road intersections	10, 22	
	Capacity of Manuia Road	12	
	General capacity of east-west links	28, 32	
	Capacity of Oakleigh Road	10, 13, 14, 16, 20, 45	
	Effects on transport including freight	31	
	Effects on Walters Road and Walters Road / Tironui Road	38	18
	Capacity of Walters Road		4
	Traffic volumes on Walters Road differ between NoR2 and South FTN NoR 4		10, 11
	Effects on Arion Road		13
Freight	Trucks on Manuroa Road and freight routes / over dimension routes	4, 10, 13, 14, 22	3
	Effects of closing Spartan Road on diversion of heavy vehicles	10, 21	
	No assessment of heavy vehicles on Hitchcocks Road	12, 15	
	Access to premises at 26 Oakleigh Avenue	13, 14	
Parking	Removal of on-street parking	4, 31	3
	Removal of on-site parking – General	4, 31	3
	Removal of on-site parking – site specific:		

Submission Topic	Sub-issue	Submission	
		NoR 1	NoR 2
	• 18 Manuroa Road	7	
	• 9-13 Taka Street	11	
	• 37-39 Oakleigh Avenue	15	
	• 1-15 Spartan Road	29	
	• Takanini Town Centre		17
	• 12 Walters Road		19
	• 20A Walters Road		20
	• Southgate Shopping Centre		20
Property Access	• General	4	3
	• 18 Manuroa Road	7	
	• 9-13 Taka Street	11	
	• 33 Oakleigh Avenue	12	
	• 37-39 Oakleigh Avenue (truck access)	15	
	• 16 Spartan Road	20	
	• 20 Spartan Road	46	
	• 22 Oakleigh Avenue	27	
	• 1 and 15 Spartan Road	29	
	• 106 Great South Road	30	
	• Takanini Town Centre (30 Walters Road)		3, 17
	• 12 Walters Road, 230 Great South Road		19, 20
	• 166-168 Great South Road	42	22
Changes to proposals requested	Future proofing for Mill Road / implement Mill Road project	10, 14, 19, 20	
	Amend Manuia Road / Oakleigh Avenue roundabout layout	15	
	Amend Oakleigh Avenue / Spartan Road intersection layout	15	
	Widen Manuroa Road	32	
	Traffic signals at Oakleigh Road / Manuroa Road	45	
Safety	Cyclist safety (Spartan Road)	10, 21, 22	
	Pedestrian safety (Oakleigh Avenue)	13, 14	
	Ped / cycle safety Spartan and Manuroa Road bridges	37, 38,39,40	
	Operation of Walters Road		19, 20
Effects on operation of sites	• 72-86 Great South Road	17	
	• 16 Spartan Road	20	
	• 102 Great South Road	23	
	• Severance from other site operations (1-15, 58 and 81 Spartan Road)	29	
	• Assessment of effects on 166-168 Great South Road	42	22
	• Effects on infrastructure on 166-168 Great South Road	42, 42, 42	22,
	• 1-3 Walters Road	38	18

Submission Topic	Sub-issue	Submission	
		NoR 1	NoR 2
	• 12 Walters Road		1, 5
	• 20A Walters Road		20
Pedestrians / Cyclists	Accessibility of Spartan Road and Manuroa Road bridges	25, 43	23
	Investigate alternative connections to Takanini station	43	23
	Pedestrian connections on Tironui Road		8
Design detail	Lack of sufficiency of design detail	22	
	All bridges should be multi-modal	28	
	Length of Walters Road bridge		4
	Certainty of design between NoR 2 and South FTN NoR 1 on Walters Road		10, 11
	Effects of design on 164-166 Porchester Road (Walters Road frontage)		10, 11
Conditions	Future proofing for widening of rail corridor	33	12
Construction Traffic Effects			
Construction staging	Timing of level crossing closures for construction	15, 26, 28, 28, 29, 31	
	Effects on freight	4	3
	Inadequate assessment of traffic effects in vicinity of Takanini Town Centre		17, 18, 19, 20
Property Access	• 18 Manuroa Road	7	
	• 9-13 Taka Street	11	
	• 33 Oakleigh Avenue	12	
	• 37-39 Oakleigh Avenue (truck access)	15	
	• 16 Spartan road	20	
	• 164-166 Porchester Road (Emergency access)		10, 11
	• 12 Walters Road		19
Car Parking removed	• 9-13 Taka Street	11	
	• General	31	
	• Takanini Town Centre		17
	• 12 Walters Road		19
Pedestrians	Pedestrian connections		8

Overall conclusion

Overall, Mr Peake considers that the Notice of Requirements generally meet the project objectives with regards to traffic and transport except where he outlines this and also subject to provision of further information as outlined in paragraph 7.12 of his report. He considers appropriate conditions are required to manage traffic and transport effects, including recommended changes in paragraph 7.13 of his report (as detailed in Section 6 of his report).

For construction, he generally agrees with the approach adopted to assess the traffic effects due to construction and generally agree with the assessment of those effects at the network wide level. However, he considers that the NoR conditions do not sufficiently ensure those effects are appropriately managed in relation to the staging of the construction of the TLC projects (both NoR 1 and NoR 2) and he considers that key recommendations of the ATE should be adopted within the NoR conditions.

In terms of the specific property related effects during construction, Mr Peake considers that on the whole, the NoR conditions to be sufficient to manage those effects. However, there are some site specific effects which he considers are not sufficiently addressed by the conditions. Therefore he considers that either refinement of the NoR conditions is required or a Schedule is required to identify those specific properties and the matters to be addressed.

In terms of the operational phase of the project, (following construction being completed) Mr Peake considers that the TLC projects, once all completed, will achieve the objective of increasing the east-west capacity over the railway line at the local level. However, he has concerns that the project will have adverse effects on providing access to the adjacent strategic road network (SH1 at Takanini Interchange), and he considers that further information is required on this matter to determine the effect on the interchange and on the operation of key Great South Road intersections.

Mr Peake is concerned about network resilience with the closure of both Spartan Road and Manuroa Road being replaced by the single crossing at Manuia Road for freight and general traffic and how the project will meet this specific objective.

Prior to the completion all the TLC projects (in particular NoR 1), Mr Peake considers that there may be temporary traffic and transport related effects with the staged construction of the Project. This has not been assessed in the ATE due to the number of permutations of constructing and closing the four crossings over the NIMT. Mr Peake considers a condition will be required to address this matter.

Mr Peake agrees that there will be crash savings with the project in relation to the level crossings. However, he considers that the crash benefits across the wider road network presented in the ATE are overstated. Notwithstanding this overall, he considers the safety objective of the project would be able to be met by the project.

In terms of active modes, the concept design for overbridges at Spartan Road and in particular Manuroa Road, could be a deterrent for active modes due to the extent of switch backs on the bridges and therefore the project may not appropriately meet the mode shift project objective. Alternatives such as underpasses may provide better facilities, subject to careful design, and could enable the designation boundary to be reduced. Mr Peake considers that the project has not sufficiently considered the alternatives for the active mode connections at Spartan Road and Manuroa Road.

With regards to NoR 1 and each specific proposed railway line crossing, Mr Peake has the following conclusions:

<u>Spartan Road</u>

a) The provision of the active modes connection is supported but the proposed bridge would not be an attractive facility for active modes due to the long switch backs on the bridge, and therefore, would not meet the objective of improving active mode facilities and travel choice.

b) Alternatives for the active mode bridge, such as an underpass have not been considered.

c) The NoR conditions do not adequately address the effects on the movement of heavy vehicles from properties west of the railway line to be able to travel north of Spartan Road on Great South Road, particularly to access SH1 via the northbound on-ramps. This is inconsistent with the project objective to support enhanced access to economic opportunities.

d) The project will change the routing of traffic through the Spartan Road / Oakleigh Avenue / Westbrook Avenue intersection and the effects on the safe and efficient operation of this intersection have not been assessed.

Manuia Road

e) The Manuia Road bridge is essential to providing alternative routes to Spartan Road and Manuroa Road and meets the project objective of enabling safe movements across the NIMT and east-west movements of all users.

f) The Manuia Road bridge will provide for traffic movements from the existing Spartan Road and Manuroa Road routes. A single alternative route may not be sufficient to provide for network resilience in the event of an incident.

g) Mr Peake is concerned about the safety of the proposed intersection between the new bridge and the existing Manuia Road due to its proximity to Great South Road intersection.

Manuroa Road

h) Mr Peake supports the provision of the active modes connection on Manuroa Road as this is necessary to provide connectivity to key destinations.

i) The active mode bridge would not be an attractive facility for active modes due to the long switch backs on the bridge and would not meet the objective of improving active mode facilities and travel choice.

j) Alternatives for the active mode bridge, such as an underpass have not been considered.

k) The project will change the routing of traffic through the Manuroa Road / Oakleigh Avenue intersection and the effects on the safe and efficient operation of this intersection have not been assessed.

l) The alignment of the turning head on the eastern side of the level crossing has not been sufficiently justified to demonstrate that land required at 18 Manuroa Road for the turning head is reasonably required.

Taka Street

m) The proposed bridge will improve the safety and efficiency of movements along Taka Street as this removes the level crossing.

n) The closure of Takanini Road at Taka Street whilst restricting access from its northern end will make Takanini Road safer for residents by reducing through traffic.

o) The access lanes to provide access to properties are generally supported. However, Mr Peake has concerns over the means to provide safe and effective access to 7 and 9-13 Taka Street via the access way through 166-168 Great South Road (Z petrol station) both during construction and operation.

p) Mr Peake has concerns on the safety of the intersection between Taka Street and the access lane west of the railway line and north of Taka Street due to its proximity with Great South Road / Taka Street intersection. Right turn movements may need to be restricted affecting property access.

With regards to NoR 2 and the Walters Road railway line crossing, Mr Peake has the following conclusions:

Walters Road

a) Mr Peake considers that the proposed bridge will improve the safety and efficiency of movements along Walters Road as this removes the level crossing.

b) Mr Peake is concerned about the feasibility of the access lane arrangements to the properties north of Walters Road west of the railway line and the ability to accommodate the movement of heavy vehicles.

c) The effects of restricting access to Takanini Town Centre during the construction of the project, should Walters Road be closed to traffic for extended periods has not been adequately assessed. Mr Peake considers that this would result in the routing of vehicles, including heavy delivery vehicles, through residential roads.

Recommended Condition Changes:

a) The CTMP condition should ensure that the TLC projects are appropriately staged and coordinated to mitigate the effects of the construction of the various TLC projects and that the conditions manage the effects of the different road users / transport modes. This should include the ATE recommendation that Walters Road be constructed off-line. Different wording will be required for NoR 1 and NoR 2.

b) The CTMP condition should require input from key stakeholders and comments incorporated in accordance with the Management Plans Condition 8(iv).

c) The CTMP condition should show how access would be managed for major facilities such as Takanini Town Centre, and that the number and duration that car parks within the Takanini Town Centre will be removed should be minimized to the extent possible for construction activities.

d) The CTMP condition should include reference to the Subway Road east-west connection as this is adversely affected by both NoR 1 and NoR 2, particularly for construction of Taka Street and Walters Road.

e) The CTMP condition in NoR 1 and NoR 2 should require the provision of safe and direct alternatives for pedestrians and cyclists during construction.

f) The CTMP condition should be amended so that parking associated with construction and operation is managed to minimise effects on surrounding roads.

g) The CTMP and ULDMP conditions should provide appropriate measures to enable heavy vehicles from Spartan Road properties west of the railway line to travel safely to Great South Road north of Spartan Road both during project operation and construction. As a minimum these should include the requirement for a preliminary design safe system audit and Road Safety Audit as was recommended in the ATE.

h) The ULDMP condition should ensure that any temporary traffic and transport related effects of the staged construction of NoR 1 are considered and addressed.

i) The ULDMP and CTMP condition should address construction and operation related property effects where these are significant. This could be achieved by way of specific NoR conditions or a schedule listing relevant properties. These properties are considered to be:

(i) 1 and 15 Spartan Road

(ii) 18 Manuroa Road

(iii) 9-13 Taka Street

(iv) 166-168 Great South Road

(v) 12 Walters Road

(vi) Takanini Town Centre

j) The ULDMP condition should be amended to ensure that the project appropriately address the effects on the SH1 Takanini Interchange if an assessment is not provided, or if an assessment shows that there is a more than minor effect on the interchange.

k) The ULDMP condition should require an assessment of the safe and efficient operation of the Spartan Road / Oakleigh Avenue and Manuroa Road / Oakleigh Avenue intersections due to amended traffic patterns with the project.

l) The ULDMP condition should be amended to ensure the design provides for safe and direct pedestrian and cycle facilities at Spartan Road and Manuroa Road.

m) The ULDMP condition should provide for wayfinding signage to the community facilities on Takanini Road for pedestrians and motorists as recommended in the ATE.

n) The ULDMP condition should ensure the reinstatement of on-street parking is considered during the development of the design taking into account road functions and adjacent land uses.

o) The ULDMP condition should ensure that the Requiring Authority liaises with stakeholders to reinstate on-site parking.

p) The ULDMP condition should be amended to include specific requirements for future proofing the NoR designs for future NIMT railway track capacity and providing connections to the station for pedestrians and cyclists.

q) The Existing Property Access condition should refer to occupiers as well as land owners, as the changes may affect tenants or businesses who do not own the land.

Mr Peake has requested that the Requiring Authority provides the following information either in evidence or at the hearing

a) Provide further assessment to support the closure of Manuroa Road, particularly in regard to the network resilience, taking into account the availability of rail crossings between Spartan Road and Taka Street upon completion of the project.

b) An assessment should be provided of the safe and efficient operation of the Spartan Road / Oakleigh Avenue intersection and the Manuroa Road / Oakleigh Avenue intersection due to re-routeing traffic with the closure of Spartan Road and Manuroa Road level crossings.

c) Provide an assessment of alternative measures for the active mode connections at Spartan Road and Manuroa Road, such as a pedestrian/cycle underpass, including demonstrating the land that is reasonably necessary for the project.

d) Provide details as to how the proposed new intersection between the Manuia Road bridge with the existing Manuia Road would be treated to ensure its safe and efficient operation.

e) Provide details of the effects of the proposed works on the property located at 37-39 Oakleigh Avenue where a new building is being constructed.

f) Updated SIDRA modelling should be provided for the Oakleigh Road roundabout with heavy vehicles included for Hitchcock Road. The volume of vehicles using Hitchcock Road should be checked.

g) Results of the traffic modelling undertaken in relation to the response to s92 transport request T10 for the Great South Road / Manuia Road, including SIDRA model Summary Lane and Approach results should be provided.

h) Further analysis should be provided of the operation of the proposed Manuia Road / Great South Road traffic signals in combination with the operation of the Takanini Interchange to demonstrate that the network would operate efficiently and safely, together with a more robust assessment of the delays associated with the operation of the Takanini interchange. The assessment should take into account lane utilisation and effects of queues on the safe and efficient operation of intersections.

i) Provide an assessment of the safe and efficient operation of the access lane west of the railway line and north of Taka Street at its intersection with Taka Street and any turning restrictions identified which could affect vehicle routing.

j) Provide an assessment of the effects on traffic routing for access to the Takanini Town Centre during construction and measures to address those effects.

k) Provide details as to any anticipated restriction on turning movements at the Walters Road / Tironui Road intersection and associated traffic effects.

l) Provide details of measures for 1 and 15 Spartan Road to mitigate the effects on on-site car / truck parking and / or adjust the design and designation to address the adverse effects. This should take into account alternatives for the provision of the active modes connection as recommended in paragraph 7.12 (c) of Mr Peake's report.

m) Provide details of how access could be provided to the site at 102 Great South Road and how an alternative layout to provide a petrol filling station could be achieved, including replacing the proposed batter slopes with retaining structures, for the operation of the site.

n) Demonstrate that it is reasonably necessary to position the turning head partly within 18 Manuroa Road rather than designing it with an offset to the south.

o) Further assessment and evidence is required on the suitability of the proposed access lane arrangement to 7 and 9-13 Taka Street, the effects on the operation of the site at 166-168 Great South Road and the feasibility of amending the site layout to provide a feasible layout arrangement (including relocation of critical infrastructure for the operation of the site). It should demonstrate the possible options for providing access and providing alternative car parking for 9-13 Taka Street. The assessment is required for both construction and project operation.

p) Demonstrate how the project will mitigate the effects on 1-3 Walters Road for the future operation of the site.

q) Provide plans of vehicle tracking that demonstrate that trucks (including semi-trailers and B-trains) are able to enter and exit the access lanes from Walters Road, traverse the access lanes and access properties such as 12 and 20A Walters Road, and / or provide details as to how practical and safe access for heavy vehicles will be retained with the proposed layouts. This is required for both construction and project operation.

r) Demonstrate how the occupier of 12 Walters Road (Carters Building Supplies) would be able to continue to operate on the site during construction and operation with the removal of loading and parking areas along the Walters Road frontage.

s) Provide confirmation, or otherwise, that it is the intention that the car parks along the frontage with Walters Road for Takanini Town Centre and Southgate Shopping Centre are only required for construction of the works and that these would be reinstated post construction.

t) Confirm whether the proposed works to 164-166 Porchester Road on the Walters Road frontage can be constructed from within the road reserve rather than requiring land within the property. This is needed to demonstrate that the land required for the proposed designation is reasonably required.

u) Differences in traffic volumes on Walters Road should be explained and, whilst not a traffic matter, if necessary, noise calculations / assessment for NoR 2 (or NoR 4 for the South FTN) should be updated accordingly.

Planning Review

As discussed above and in greater detail in Mr Peake's memo, it is considered that further information is required from the Requiring Authority on a considerable number of matters related to transport effects in order to better inform understanding of the transport effects resulting from the project and also to determine or refine options for mitigation of adverse effects. I rely on the expert opinion of Mr Peake in relation to the information that the Requiring Authority is asked to provide in evidence at the hearing.

A number of condition amendments are also proposed by Mr Peake. I also rely on Mr Peake's expert opinion that the NoRs can be provisionally supported to be confirmed with appropriate conditions, subject to the information to be provided by the Requiring Authority at the hearing satisfactorily addressing the concerns raised by Mr Peake, including:

While the removal of the level crossings will improve safety, a number of items of information are being requested from the Requiring Authority. The most significant of these are:

- Further assessment is requested to support the closure of Manuroa Road, particularly in regard to the network resilience, taking into account the availability of rail crossings between Spartan Road and Taka Street upon completion of the project. Further analysis has also been requested of the operation of the proposed Manuia Road / Great South Road traffic signals in combination with the operation of the Takanini Interchange to demonstrate that the network would operate efficiently and safely, together with a more robust assessment of the delays associated with the operation of the Takanini interchange. Should these items of information not be provided to Mr Peake's satisfaction, this potentially brings the NoR 1 Manuia Road bridge option and location into question.
- An assessment has been sought of alternative measures for the active mode connections at Spartan Road and Manuroa Road, such as a pedestrian/cycle underpass, including demonstrating the land that is reasonably necessary for the project. This brings the type of connection and extent of NoR boundary into question.

Mr Peake also seeks that the Requiring Authority address a number of site specific solutions.

5.1.7 Landscape and Visual Evaluation

Requiring Authority AEE

Effects on Landscape and Visual effects ecology are addressed in section 11.3 of the AEE which refers to two technical reports – the technical report "Te Tupu Ngātahi Supporting Growth Takaanini Level Crossings Assessment of Landscape, Natural Character and Visual Effects" October 2023 Version 1.0 by Catherine Hamilton ("Original LVA"), and the technical report "Te Tupu Ngātahi Supporting Growth Takaanini Level Crossings Supplementary Assessment of Visual Effects" October 23 Version 1.0 by Matthew Jones ("Supplementary Assessment").

The AEE states that the two assessments holistically consider the actual and potential effects on natural character, landscape character and visual effects associated with the construction and operation of the project and recommend measures to mitigate these effects. Both assessments should be read alongside one another, with the Supplementary Assessment using the Original LVA as base content. The assessments differ in their approaches to natural character, with the Supplementary Assessment concluding that as highly modified urban environments, the project areas do not possess attributes or contents which warrant an assessment of natural character.

Construction Effects

Temporary adverse landscape character and visual amenity effects from the project (considering the network as a whole) during the construction phase are summarised as:

- **Construction footprint:** Potential adverse construction effects are expected to result from the construction works footprint, where construction machinery, laydown areas, temporary structures and site preparation works including earthworks and vegetation removal, will be introduced within the environment. The additional width of works required during construction may also cause vegetation outside of the permanent corridors to be removed and for work to occur within the protected root zone of existing trees.
- **Open spaces and reserves:** The Project has the potential to affect five open spaces during the construction phase – this is generally along the edge of the open space adjacent the street frontage, or changes to the access/routing to the space. There is the potential for the removal of trees within the open spaces during the construction phases which can have an impact on their landscape character values. Although construction activities will result in some disruption to these open spaces, they can still remain accessible and usable.
- **Exposed earthworks:** Exposed earthworks can result in visual landscape effects during construction.
- **Reduced amenity:** Adjacent residents and users of the spaces (e.g., vehicles, pedestrians, cyclists) are likely to experience temporary reduced amenity, including from noise, dust and lighting, as well as from visual effects caused by the presence of construction activities.
- **Reduced visual amenity:** Fixed viewers along the project areas will be proximate to and will have views of the construction activities. Views from public locations will likely be restricted to transient viewers (e.g., motorists, pedestrians, cyclists, commuters) travelling along the road and rail corridors, within open spaces and shopping centre carparking where they are proximate the project areas.
- **Temporary effects:** it is anticipated that activities during construction of the works will be generally consistent in nature and scale to road works and infrastructure activities commonly anticipated by public transient viewing audiences. Another important consideration is that landscape change by way of vegetation removal, land modification and urban development forms part of the expected backdrop of the existing environment as the area intensifies. Notwithstanding this, some public and private vantage points are likely to witness heightened adverse visual effects through the construction phase.

The level of effects during the construction phase is assessed by the AEE authors for each project area in terms of landscape character and visual amenity. Effects on landscape character and visual amenity are said to vary between Low Adverse and Moderate to High Adverse.

To avoid, remedy or mitigate potential landscape and visual adverse construction effects, the Requiring Authority proposes a number of conditions for both NoR 1 and NoR 2. These conditions include:

- Construction Environmental Management Plan (CEMP) – Condition 15
- Urban and Landscape Design Management Plan (ULDMP) - Condition 12
- Tree Management Plan (Condition 23)
- Construction Traffic Management Plan (CTMP) - Condition 18
- Stakeholder Communication and Engagement Management Plan (SCEMP) – Condition 9
- Project information – Condition 2
- Mana Whenua Kaitiaki Forum - Condition 11

Key recommendations from the Requiring Authority's landscape and visual assessments include:

- Site compounds, construction yards, the storage of construction machinery and locations of any overburden areas should be located in visually discrete locations. At the very minimum screening of these elements is required during the construction period;
- Although only limited variation in topography, the earthworks required should reinstate construction and site compound areas by removing any left-over fill and shaping ground to integrate with surrounding landform;
- Where practicable, during construction, install construction hoardings with interpretation panels in selected areas which are in close proximity and visible to the public (e.g. parks and commercial areas with multiple shops), to provide information about the Project and its progress;
- Provision of screening hoardings around the boundaries of site compounds that face on to adjacent properties. Screening should be designed to minimise the appearance of bulk and dominance, be aesthetically pleasing and reflect the context it is being introduced in. While screening may introduce a new visual feature adjacent to properties during construction, it will be a temporary feature and engagement with relevant affected landowners is recommended prior to works commencing to communicate the proposed mitigation and identify any concerns;
- Where practicable, during construction, establish site compound areas adjacent to the NIMT and away from the public road to reduce visual clutter;
- Provide opportunities for Manawhenua involvement in relation to various design components and nominated artists to provide visual storytelling on the construction hoardings;
- Where possible, mitigate effects related to lighting during nighttime works through the use of directional lighting to prevent glare / spill light falling on adjacent properties;
- Wherever possible, limit the removal of noteworthy trees and provide management of remaining vegetation in accordance with the arborist report;
- Open spaces adjacent to the designation boundaries should be cordoned off from construction impacts through the use of physical barriers. However, retain access for the community to connect to these open spaces and also the Takaanini train station; and
- Provide access to adjacent properties to maintain connections through the urban landscape.

Operational effects

The level of effects after construction has been completed is also assessed for each project area in terms of landscape character and visual amenity. Any adverse effects on landscape are anticipated by the Requiring Authority to be very low adverse with mitigation measures implemented. Adverse effects on visual amenity are also assessed to be very low adverse. Effects on landscape character and visual amenity vary between Moderate Adverse and Very Low Adverse.

To avoid, remedy or mitigate potential landscape and visual adverse operational effects, the Requiring Authority proposes a number of conditions for both NoR 1 and NoR 2. These conditions include:

- Urban and Landscape Design Management Plan (ULDMP) - Condition 12
- Tree Management Plan (Condition 23)
- Mana Whenua Kaitiaki Forum - Condition 11
- Existing Property Access – Condition 14

- Designation Review – Condition 4

Key recommendations from the Requiring Authority's landscape and visual assessments include:

- Design the Project to integrate into the adjacent urban landscape context (this includes any land that may no longer be required post-construction). This relates to the emerging urban environment (responding to density and land uses), landscape character, and any open space zones;
- Investigate opportunities to integrate with existing and future open spaces (and also walking and cycling infrastructure) along the project areas;
- Reinstate driveways, accessways, private fences and garden plantings for existing remaining properties affected by the works;
- Adopt an outcomes-based approach to landscape mitigation that considers overall improvements to this urban landscape (including biophysical systems and processes), and enhances visual amenity;
- Continue to partner with Manawhenua in the ongoing design and implementation of landscape outcomes and support outcomes that contribute positively to Te Ao Māori cultural landscape;
- Develop a landscape management plan that focuses on:
- Creating an indigenous vegetation palette in favour of indigenous species,
- Selecting trees that are resilient to future predicted climate change,
- Contributing to a connected green infrastructure that enhances ecosystem services,
- Selecting and growing locally provenanced / eco-sourced indigenous species,
- Using street trees to provide shade and soften the visual appearance of infrastructure in the corridor; and,
- Creating a distinctive planting palette that contributes to the unique signature and identity of the urban landscape.
- Use of shade trees and attractive amenity plantings, generous open space, attractive hard landscape features, wayfinding, sculpture, and art could be incorporated to contribute to high landscape amenity;
- Design public access interfaces with bridge / ramp infrastructure to be of a human-scale;
- Provide spaces and furnishings along active mode routes that support respite, comfort, rest and social connections. These spaces could be activated through providing elements such as seating, sculptures, art and play elements;
- Adopt CPTED principles in future design, especially being mindful of the undercroft spaces beneath the respective bridges (also refer below);
- Use non-reflective and recessive colours and materials to prevent visual intrusion of the infrastructure elements;
- Design being mindful of potential light effects, e.g. avoid light spill;
- Select locations for hard infrastructure (such as transformers) that will not be visually intrusive. Notwithstanding, provide mitigation of these elements;
- Design structures to contribute positively to visual amenity for nearby residents who will view any infrastructure elements from close proximity. Consider the form, colour, bulk, textures and finishes to elements to create visual quality and interest. This also includes plant species selection.
- Specific to bridges and structures:

- To be designed to visually integrate with the localised context and to minimise any potential adverse effects on urban landscape character and visual amenity of the area;
- Bridges should be designed to contribute to local identity, demonstrating a sense of place. This relates to bridges and structures to demonstrate the character and appropriate scale;
- Engagement with Manawhenua should be undertaken with the use of preferred te ao Māori design principles. Where appropriate, bridges and structures should be designed as features;
- Where possible, provide associated landscape planting which will assist with visual softening and mitigation; and
- Avoiding noise barriers where possible. If these are to be included, they should be designed to integrate into the localised environment to avoid visual prominence and adverse effects.

- Specific to bridge undercrofts:
  - Opportunities to design the edges and undersides of structures visible at close range to be visually interesting, aesthetically pleasing, contribute to a safe walking environment and assist (rather than obscure) wayfinding;
  - Considers how project users experience and perceive the new structures from shared paths, adjacent public spaces, local roads and private properties. Particularly from existing residential areas around both ends of the undercroft and from the space under the undercroft;
  - Opportunities to use the undercrofts of the bridge to provide informal community recreation spaces or spaces for the community to interact with (i.e., facilities such as a small ball court, sitting area and play elements could be designed into the space, subject to CPTED and contextual considerations);
  - Considers how the undercrofts could be used to support connectivity through this urban landscape;
  - Considers the use of light in the undercroft to enhance the quality and safety of these areas; and
  - Considers how the surfaces of the structures, associated elements (i.e. signage, light poles, etc) and their surroundings could be designed to discourage graffiti, be easily maintained and not trap litter.

Council Specialist Review

Mr Rob Pryor from LA4 Limited has prepared a technical memo on behalf of council covering his assessment of the submitted documents, response to relevant submissions and recommendations. "Technical Memorandum for Notices of Requirement (NoRs) Takaanini Level Crossings Project", Rob Pryor, LA4 Limited, 6 March 2024

Mr Pryor's report identifies and addresses the following potential key landscape character and visual amenity issues in relation to the project:

Notice of Requirement	**Key issues** **LC** – landscape character, **VA** – visual amenity

NoR 1	**Construction Phase** i) Bridge, abutment, retaining wall and embankment construction (LC, VA) ii) Building removal – residential and commercial (VA) iii) Scheduled tree removal (LC, VA) iv) Tree removal (LC, VA) v) Effects on public open spaces / reserves (access restriction, skate park removal and vegetation removal) - Takaanini Reserve (LC, VA) vi) Visual amenity from adjoining properties (VA)
	Operational Phase vii) Visual amenity of bridges and associated structures from adjoining residential properties, childcare, healthcare and commercial businesses (VA)
NoR 2	**Construction Phase** i) Bridge, abutment, retaining wall and embankment construction (LC, VA) ii) Building removal – residential and commercial (VA) iii) Tree removal (LC, VA)
	Operational Phase iv) Visual amenity of bridges and associated structures from adjoining residential properties, childcare and commercial businesses (VA)

Mr Pryor reviews the Requiring Authority's assessments of effects during the construction and operational phases for each project area in terms of landscape character and visual amenity.

Landscape character

In terms of effects on landscape character, Mr Pryor concurs that following construction and implementation of the new roading infrastructure and proposed mitigation measures required through the ULDMP the adverse effects will be low-moderate overall. Upgrading of the streetscape environment and implementation of street tree plantings will potentially enhance the landscape character of the surrounding environment.

He considers that the removal of established trees could be mitigated over time through replacement tree planting and measures outlined within the ULDMP and TMP.

Mr Pryor concurs that the extent of the designations is localised, and the works authorised by the respective designations will not be out of place or incongruous with the established urban character of the area.

The new bridges will introduce considerably larger structures into the urban landscape. Mr Pryor considers that in light of the existing and likely future environment they could be integrated into the landscape setting through design detailing of the bridge structures, retaining walls, and through sensitive landscape treatment of the batter slopes as outlined in the ULDMP proposed conditions 12(g)(iii)(c) and 12(h)(c).

The LVA further identifies specific measures to avoid, remedy or mitigate the effects of the bridges as follows :

'Design structures to contribute positively to visual amenity for nearby residents who will view any infrastructure elements from close proximity. Consider the form, colour, bulk, textures and finishes to elements to create visual quality and interest. This also includes plant species selection.'

Mr Pryor concurs that these mitigation measures are appropriate and will assist to integrate the bridge structures into the surrounding landscape.

Visual amenity

Mr Pryor concurs that the Project will have a high viewing audience due to its location along an existing road corridor within an established urban environment. Close views will be gained from those travelling along the roads and from the residential and commercial properties and open space areas adjacent to the designation. From the wider area there will only be limited visibility due to the screening effect of buildings, structures and vegetation within the line of sight.

There will be temporary adverse visual amenity effects during the construction stage, however Mr Pryor considers that these can be mitigated to a degree by measures outlined in the Construction Environmental Management Plan (CEMP).

Mr Pryor made a s92 request that further commentary should be provided on the visual amenity effects of the project on the residential audience in cognisance that the 'likely future environment' could take some time to be fully intensified. The SGA response was that as the project will not be implemented for approximately 10-15 years, considering the environment as it exists today is not necessarily a true reflection of the environment in which the project will be constructed and will operate. The SGA further considers that the Plan-enabled environment provides a consistent approach to assessment and recognition of the potential future in which the Project will be located within.

In light of this Mr Pryor generally agrees with the likely future environment described in the LVA, but considers this is a planning matter that should be addressed further at the hearing. Significant growth and change is planned for this area in the future and Mr Pryor considers that the proposed ULDMP condition, for a required management plan will achieve the landscape character and visual amenity effects outcomes in consultation with affected parties.

Submissions

Mr Pryor has reviewed the landscape character and visual amenity submissions in relation to the NoRs. The following submission themes are of relevance to his assessment:

- NoR 1
  - Interface of the Project with the surrounding area (6 submissions)
  - Shortcomings in the assessment of alternatives (overbridge vs underpass) (6 submissions)
  - Adverse landscape character and visual amenity effects (7 Submissions)
  - Impact on existing site infrastructure (2 submissions)
- NoR 2
  - Interface of the Project with the surrounding area (4 submissions)
  - Adverse landscape character and visual amenity effects (7 Submissions)
  - Shortcomings in the assessment of alternatives, (overbridge vs underpass) (4 submissions)

In relation to interface of the project with the surrounding area, Mr Pryor considers that compliance with management plan documents (specifically the ULDMP and the Land Use Integration Process will assist with the ongoing avoidance, remediation and mitigation of adverse landscape and visual effects and ensure an integrated and positive outcome. He recommends a change to the ULDMP condition to address how interfaces and edge treatment with adjoining properties have been treated.

In relation to adverse landscape character and visual amenity effects, Mr Pryor concurs with the submitters' concerns and considers that as affected stakeholders they will participate in the detailed design as part of the ULDMP, in order to achieve appropriate landscape character and visual amenity effects outcomes to avoid, remedy or mitigate potential adverse landscape character and visual amenity effects of the works on their properties.

In relation to shortcomings in the assessment of alternatives, (overbridge vs underpass), Mr Pryor comments that he understands from the Assessment of Alternatives that the key constraints identified in the assessments for the Walters Road underpass option relating to ground conditions, construction complexity, lack of resilience, and urban design and safety concerns for the community were also considered relevant at the Taka Street and Manuia Road project areas. Accordingly, bridges were recommended as the preferred physical form of grade separation in those locations. Mr Pryor considers that this is more of a planning and engineering matter and he defers to those specialists.

In relation to impact on existing site infrastructure, Mr Pryor comments that he supports the Land Use Integration Process condition, which sets out a clear process for land use integration. He considers the condition will enable landowners to get involved, particularly in relation to edge conditions, front yard landscaping, and crossings. He also refers to his suggested amendment to the ULDMP condition to address how interfaces and edge treatment with adjoining properties have been treated.

Mr Pryor considers that the proposed Condition 12 Urban and Landscape Design Management Plan (ULDMP) for a required management plan will achieve the appropriate landscape character and visual amenity effects outcomes. He does however have issues with the timing of the preparation of the ULDMP, and considers that the condition should be amended so that the ULDMP is prepared well in advance of the detailed design stage of the project.

With his proposed amendments, Mr Pryor considers that the adverse landscape character and visual amenity effects can be effectively avoided, remedied or mitigated, with positive landscape effects also being facilitated through the NoRs and associated ULDMP conditions.

Recommended Condition Changes:

- Condition 12 Urban and Landscape Design Management Plan (ULDMP)

Planning Review

I rely on the expert opinion of Mr Pryor in making my planning assessment and recommendations. I agree with the condition changes which Mr Pryor recommends, which include requiring details about how the interface and edge treatment with adjoining properties has been treated.

I note that with his proposed amendments, Mr Pryor considers that the adverse landscape character and visual amenity effects can be effectively avoided, remedied or mitigated, with positive landscape effects also being facilitated through the NoRs and associated ULDMP conditions.

Many of the submission matters raised in other topics of this s42A report also have a landscape or visual overlap. I note in particular Mr Evans' Urban Design assessment and his opinion that massing effects of the bridge structures at Taka Street and Walters Road will likely result in adverse amenity effects, and not integrate suitably with the surrounding development. I note that Mr Evans has requested more information from the Requiring Authority in this regard, as he considers it is not clear at this time that the potential adverse operational effects in particular can be avoided, remedied, or mitigated.

Provision of the information requested from the Requiring Authority by Mr Evans, and thereafter conferring with Mr Pryor on that information will assist me to confirm my planner's view on the topic.

5.1.8 Noise and Vibration Effects Evaluation

Requiring Authority AEE

Construction and operational noise and vibration effects are addressed in section 11.4 of the AEE, which refers to the Requiring Authority's technical reports "Te Tupu Ngātahi Supporting Growth Takaanini Level Crossings Assessment of Construction Noise and Vibration Effects" October 2023 Version 1 by Siiri Wilkening, and "Te Tupu Ngātahi Supporting Growth Takaanini Level Crossings Assessment of Traffic Noise Effects" October 2023 Version 1 by Siiri Wilkening.

The AEE assessments respectively assess the likely construction noise and vibration effects and traffic noise effects associated with the project using the methods recommended in NZS 6803 in accordance with the AUOP:OP.

Construction Noise

Potential adverse noise effects anticipated during construction are:

- Removal of houses inside the designation boundary – limited duration and localised, but close to remaining houses;
- Earthworks to prepare alignment, service relocations, establishment of service lanes – longer duration but not in any one location for extended periods of time;
- Bridge piling and installation – limited duration and localised effects but night/weekend works likely required; and
- Final surfacing – likely to be done at night time. Limited duration along the alignments.
- Night-time / long weekend construction noise (all project areas) - Bridge construction across the NIMT will likely require night-time works during a block of line.

- Construction noise (Manuroa Road project area) – Works undertaken close to the existing early childcare centre facility at 18 Manuroa Road.
- Construction noise (Taka Street project area) – Works undertaken close to Takaanini Care Centre which is an aged care centre at 9 Taka Street.

Construction Vibration Effects

Potential adverse vibration effects anticipated during construction are:

- Demolition of houses inside designation – limited duration and localised, but close to remaining houses;
- Road preparation: use of vibratory rollers – along all crossing alignments, therefore limited duration but affecting all immediately fronting houses; and
- Construction of bridge piles and retaining walls.

The Requiring Authority's Construction Noise and Vibration Effects Report recommends measures to avoid, remedy or mitigate construction noise and vibration effects. The primary mechanism to respond to these recommendations are the Construction Noise and Vibration Management Plan (CNVMP) (Condition 21) and CNVMP Schedule (Condition 22) which are proposed as conditions for each NoR.

Operational effects

The Project consists of both "altered roads" (Spartan Road, Manuroa Road, Taka Street and Walters Road crossings) and one "new road" (Manuia Road crossing). The Requiring Authority notes however, that Spartan Road does not cause a sufficient effect to qualify as an Altered Road in accordance with NZS 6806.

Existing "Protected Premises and Facilities" (PPFs) within 100m of the new road edge were assessed based on NZS 6806. The individual traffic noise level predications at these PPFs were compared with the noise criteria categories A, B and C of NZS 6806, and the anticipated noise level change due to the Project was calculated. The Do-Minimum scenario assumes no mitigation except for the low road noise surfacing.

For the majority of PPFs (255 of the total of 343 PPFs assessed across all crossings), the noise level changes due to the Project will be insignificant (ranging from +2 to -2 dB). A further 62 PPFs are predicted to receive noticeable to significant noise level reductions due to road closures and the elevation of the bridges providing shielding to houses below. The remaining 26 PPFs are predicted to receive noticeable to significant noise level increases, mostly where a new road crossing is constructed at Manuia Road, or where houses around the new bridges are removed, which reduces shielding of traffic noise for houses behind.

The key recommendations from the Requiring Authority's Traffic Noise Effects Report are:

- Traffic Noise (all project areas) - Mitigation is already assumed in the form of low noise road surface. However, any future intensification of noise sensitive activities around the crossings should take account of the noise environment and provide suitable sound insulation and ventilation on construction. Any existing PPFs receiving noise levels within Category C (Taka Street crossing) should be investigated for building modification mitigation; and

- Manuia Road project area - In addition to the use of low noise road surface, the barrier on the southern side of the bridge (over the NIMT) is recommended to be a height of 1.5m. The barrier should then be extended from the bridge edge for approximately 60m to the east at a height of 2m.

The primary mechanism to respond to these recommendations are the Low Noise Road Surface (Condition 25) and Traffic Noise (unnumbered condition before Condition 26) conditions proposed as a condition for each NoR (as set out in the separate Volume 1 document for each of NoR 1 and NoR 2 as notified). The Traffic Noise conditions in particular provide a process for determining the Detailed Mitigation Options (which could include consideration of measures such as barriers or building modification). The Land Use Integration Process (Condition 3) condition is also proposed for both NoRs which provides a mechanism for future developers to request access traffic noise modelling contours to inform adjacent development. The designation once confirmed (including conditions and supporting schedules), will also be included in the AUP:OP which can be accessed and considered by future developers in the surrounding area

Council Specialist Review

Mr Peter Runcie from SLR Consulting has prepared a technical memo on behalf of council covering his assessment of the submitted documents, response to relevant submissions and recommendations: "Supporting Growth Alliance – Takaanini Level Crossings NoRs 1 and 2, Acoustics Assessment", Peter Runcie, SLR Consulting, 5 March 2024.

Mr Runcie comments that the following potential effects have been identified and considered across all NoRs:

a) Construction noise and vibration; and

b) Traffic noise and vibration.

He considers that the relevant potential effects have been identified.

Construction noise and vibration

Mr Runcie considers the identified noise limits to be appropriate for the proposed construction activities.

Mr Runcie agrees with the general approach regarding vibration criteria adopted, including use of a longer night-time period than that required under the Auckland Unitary Plan to provide better outcomes for receivers. However, he notes that the proposed Category B night-time criteria (2 mm/s PPV) is twice as permissive as that within the Waka Kotahi guidelines. This could result in greater effects at night being permitted prior to further mitigation measures being required to be implemented. Therefore he recommends that it is reduced to no greater than 1 mm/s PPV in line with the Waka Kotahi guidelines. This requires amendment to Proposed Condition 20: Construction Vibration Standards.

Mr Runcie comments that construction noise and vibration contours indicating where exceedance of the criteria is predicted are provided in Appendix A and B. However, the specific levels of infringement (how much above the limits) and duration of potential infringements have not been provided. Without this information it is Mr Runcie's view that is only possible to provide high-level commentary around the potential effects for each NoR.

Operational Noise

Rule E25.6.33 of the AUP:OP requires that new roads and altered roads which are within the scope of NZS 6806:2010 Acoustics – Road-traffic noise – New and altered roads (NZS 6806) comply with the requirements of that standard. Mr Runcie advises that the assessment has applied the requirements of NZS 6806, and that he considers this to be the appropriate standard.

Mr Runcie notes that no assessment of potential vibration effects is provided, and considers this a potential weakness to the Requiring Authority's assessment.

Mr Runcie recommends changes to Proposed Condition 25 Low Noise Road Surface for both NoRs to reflect his comments regarding consistency between the noise effects of the as-built road and the effects assumed as part of the assessment and to provide greater certainty regarding vibration effects.

With respect to Taka Street, Mr Runcie comments that the Requiring Authority's Traffic Noise Effects Report notes that if the area is developed with multi storey dwellings, these will be less shielded from road traffic noise on the bridge. The Requiring Authority's expert considers that, as these new dwellings would be developed near the NIMT and the new Taka Street crossing, dwellings will be well insulated and provide ventilation to allow for a suitable indoor noise environment. However, Mr Runcie notes that there is no requirement for this to take place (either under the Building Code or via the requirements of the Auckland Unitary Plan) so there is limited reliance that can be placed on this statement or the likelihood of this as an outcome.

Future PPFs

Mr Runcie comments that it is his opinion that future dwellings (constructed prior to the designation detailed design) warrant consideration in terms of noise effects. However, he understands the Requiring Authority position that once the designation is in place making information available regarding the level of noise would assist developers in factoring this into the design of their developments. To provide a balance of shared responsibility it is Mr Runcie's opinion, based on the current framework of guidance, that consideration of barriers and the long-term use of low noise pavements (i.e., mitigation to control the road noise at source) should consider the environment at the time the Best Practicable Option (BPO) assessment of noise mitigation takes place, potentially 10+ years in the future.

To achieve this, Mr Runcie recommends that the conditions include a requirement for the future BPO assessment to determine the BPO for the environment that is present prior to construction starting. This would ensure the most appropriate source noise mitigation measures (road surfaces, barriers etc.) are identified and able to be incorporated into the design. Mr Runcie therefore recommends an amendment to an unnumbered condition, "Traffic Noise", located before proposed Condition 26.

Mr Runcie considers it pragmatic that the Requiring Authority is not responsible for acoustically treating dwellings that are constructed following the lodgement of the NoR so long as future road noise level information is made clearly and easily available to developers such that they are able to consider those effects in their designs (the intent of this is captured in the Land Use Integration Process Condition – 3 (d) (i) E).

Mr Runcie also suggests an alternative option to the Land Use Integration Process Condition – 3 (d) (i) E could be for the noise contours to be included as a layer on the Auckland Council GeoMaps GIS website such that it appears on property files directing people to the project website where they can find the detailed noise contour information. However, he acknowledges that how this may be achieved is beyond his expertise as an acoustic expert.

Submissions

Topic	Notice of Requirement	Number of submissions
Construction Effects	NoR 1	14
	NoR 2	11
Permanent (operational) effects	NoR 1	4
	NoR 2	6

Mr Runcie responds to a number of submissions by referring to proposed conditions which will mitigate construction noise and vibration effects.

A number of site–specific concerns were raised in submissions. Mr Runcie seeks additional information about predicted noise levels from the Requiring Authority to help some submitters better understand potential effects at specific properties.

To respond to submissions the Requiring Authority is also requested to confirmation of the basis of the alternatives assessment and how it considered potential noise effects related to a rail-under-road trench alternative.

Kāinga Ora (NoR 1 Submission 43 and NoR 2 Submission 23) is requested to provide information to clarify their submission request relating to noise mitigation.

Recommended Condition Changes:

- Unnumbered condition “Traffic Noise” located before condition 26
- Condition 20: Construction Vibration Standards
- Condition 25: Low Noise Road Surface

Mr Runcie has requested that the Requiring Authority provides the following information either in evidence or at the hearing:

a) Predicted noise levels and effects at the commercial properties at 22 and 26 Oakleigh Avenue Takanini;

b) Confirmation of the basis of the alternatives assessment and how it considered potential noise effects related to a rail-under-road trench alternative;

c) Predicted noise levels and effects at the under-construction apartments at 164-166 Porchester Road Takanini;

Mr Runcie has requested that Kāinga Ora (NoR 1 Submission 43 and NoR 2 Submission 23) provides the following information either in evidence or at the hearing:

a) Clarification as to what change in external noise levels, when existing noise levels are already above their recommended threshold, they would consider sufficient to warrant consideration of at property treatment as a mitigation measure.

Planning Review

I rely on the expert opinion of Mr Runcie in making my planning assessment and recommendations.

It would be helpful for the Requiring Authority and Kainga Ora (NoR 1 Submission 43 and NoR 2 Submission 23) to provide the responses at the hearing as requested by Mr Runcie

Mr Runcie's suggestion that traffic noise modelling contours could be included as a layer on the Auckland Council GeoMaps GIS website raises planning and legal implications that may be beyond the scope of the consideration of these NoRs.

I agree with Mr Runcie that it is important to consider the noise effects on activities that may arrive between the designations, if confirmed, and construction.

Based on Mr Runcie's assessment, I consider that subject to the above, and the proposed conditions as recommended to be amended, the potential adverse acoustics noise and vibration effects can be avoided, remedied, or mitigated.

5.1.9 Arboricultural Effects Evaluation

Requiring Authority AEE

Effects on arboriculture are addressed in section 11.5 of the AEE which refers to the requiring authority's technical report "Te Tupu Ngātahi Supporting Growth Takaanini Level Crossings - Assessment of Arboricultural Effects, prepared by Matthew Paul, dated October 2023"

The AEE notes that there are potential adverse effects from construction phase removal of trees within Open Space zoned land, road reserve and the Notable Tree Overlay which are protected by District Plan provisions.

A Tree Management Plan (Condition 23) and the Urban and Landscape Design Management Plan (ULDMP) (Condition 12) address actual and potential arboricultural adverse effects.

Council Specialist Review

Mr Leon Saxon, from Arborlab Limited has prepared a technical memo on behalf of council covering his assessment of the submitted documents, response to relevant submissions and recommendations: "Arboricultural Assessment of 2 NORs for the Takaanini Level Crossings Project "Leon Saxon, Arborlab Limited, 29 February 2024. Mr Saxon advises that:

The land that the proposed designations cover predominantly involves existing roads and adjoining residential and business zoned properties. Within the residential zoned properties, there are generally no District Plan rules providing for protection of trees / vegetation, other than where trees are listed in Schedule 10 of the AUP(OP) as Notable trees. Some areas of open space zoned reserve land are also affected. One scheduled notable tree located within the Manuroa Road project area (NOR 1) (which is in fact a pair of trees) is affected, likely to require removal.

- The most significant confirmed adverse effects relate to the removal of existing street trees located within the road reserve, trees located within open space reserve land and removal of the notable oak tree. The removal of these trees is proposed to be mitigated through replacement planting. The details of the replacement planting are proposed to be confirmed at the detailed design stage, through the compilation of a Tree Management Plan and Urban Landscape Design Management Plan.
- It may be found during detailed design, that some trees which are currently identified for removal are able to be retained. Where this is the case, it will be identified in the TMP and measures to ensure that the trees retention is viable will be confirmed.
- Potential for adverse effects exist in the form of damage to retained trees, including notable trees during construction. These adverse effects are proposed to be mitigated/minimised through the compilation of a Tree Management Plan at the detailed design stage.

Mr Saxon has reviewed the rules that have been set out in Section 3.3 (Table 8) of the Assessment of Arboricultural Effects. He concurs that the rules that have been outlined are relevant to the proposal and are the correct planning mechanism with regards to the Notice of Requirement.

Submissions

- NoR 1 – nil
- NoR 2 - One submission relates to tree removal

Arborist's Conclusion

1.1 Overall, there are no arboricultural reasons to oppose the NORs.

1.2 The conditions for the ULDMP and TMP are considered suitable measures to manage potential adverse arboricultural effects.

I rely on the expert opinion of Mr Saxon in making my planning assessment and recommendations.

I consider that subject to the proposed conditions as recommended to be amended, the potential adverse effects on arboriculture can be avoided, remedied, or mitigated.

5.1.10 Terrestrial Ecology Effects Evaluation

Requiring Authority AEE

Effects on ecology are addressed in section 11.6 of the AEE which refers to the technical report "Te Tupu Ngātahi Supporting Growth Takaanini Level Crossings Assessment of Ecological Effects" October 2023 Version 1.0 by Sahar Firoozkoohi and Conor Reid.

The AEE advises that assessment follows the approach outlined in the Ecological Impact Assessment (EcIA) Guidelines published by the Environmental Institute of Australia and New Zealand (EIANZ). This provides a standardised matrix framework to assess the ecological value of identified features and evaluate the magnitude of potential effects that the Project could have on these features.

The Ecological Assessment assesses District Plan matters only. The AEE states that Regional Plan matters will be subject to assessment during a future consenting phase with supporting EcIA.

The Wildlife Act 1953 includes specific provisions for activities that may disturb, injure, or kill native animals. These matters have been considered in the EcIA in relation to the future construction of the Project. The Wildlife Act matters have been considered in relation to the future construction phase of work.

Construction Effects

The AEE states that construction activities associated with the Project works have the potential to cause adverse effects on ecological features if they are not mitigated. This can include the removal of vegetation, permanent loss of habitat/ecosystem, fragmentation, and edge effects. Construction effects could also have impacts on native fauna including loss of foraging habitat and mortality/injury. It is assumed that after vegetation clearance has occurred that construction activities will cause disturbance and displacement to the existing native fauna (birds). This effect is likely to happen in habitats adjacent to the project areas or underneath structures such as bridges.

The potential magnitude of effect and subsequent level of effect on ecological features:

- Vegetation will be removed across all Project areas, subject to District Plan rules which require consent for tree removals within road reserves and open space zones. Effects on District Plan vegetation have been considered in the Arboriculture Assessment (summarised in Section 11.5 of the AEE) and were reviewed for the purpose of the Ecological Assessment. This vegetation is predominantly exotic street trees and is of low ecological value. The magnitude of effect of District Plan vegetation removal is considered to be Negligible.
- Construction activities on district vegetation may have a moderate level of effect on native birds, as there is a definite presence of native birds associated with the district plan vegetation and a high probability that these effects could occur. District Plan vegetation clearance will still need to be managed in accordance with the Wildlife Act in relation to native birds.
- Beyond district vegetation clearance, the construction activities could potentially displace indigenous forest birds from suitable nesting and foraging habitat within the Project area, due to noise, vibration, and lighting disturbance. With regard to both Threatened and At-Risk (TAR) species and non-TAR species, the overall level of effect due to construction disturbance is assessed as low prior to mitigation. Therefore, the AEE states that no impact management for bird species is required to mitigate construction effects.
- Copper skinks (TAR) are likely to be present within a wide range of habitats impacted by the proposed designation boundaries. There is the potential that site clearance required for construction could kill or injure indigenous lizard species and result in habitat loss. Any vegetation clearance where copper skinks are likely to occur will be managed in accordance with the Wildlife Act, including permits to salvage lizards.

Operational Effects

The AEE states that operational activities associated with the Project have the potential to cause adverse effects on ecological features. The potential operational effects are:

- Loss in connectivity to indigenous fauna (birds) due to light, noise, and vibration effects from the operation of the road, leading to fragmentation of habitat; and

- Disturbance and displacement of indigenous fauna and their nests (birds) due to light, noise, and vibration effects from the operation of the road.

These operational effects were assessed as having low overall level of effect for both TAR and non-TAR species.

Recommended measures to avoid, remedy or mitigate adverse effects on terrestrial ecology:

Construction

No specific measures are recommended as there were no District Plan ecological effects where the level of effect from the Project was assessed to be Moderate or higher.

It is however noted that District Plan vegetation clearance will need to be managed in accordance with the Wildlife Act in relation to native birds. Management controls during vegetation clearance should include the avoidance of the bird nesting season (September to February) where practicable or nesting bird checks when construction is occurring within the nesting season.

Operational

Although a loss of connectivity, disturbance and displacement may be experienced by indigenous fauna; the removal of predominantly exotic (terrestrial) vegetation of low ecological value results in negligible to very low effects on fauna. Therefore, no measures are identified as necessary to mitigate the potential operational effects on terrestrial ecology.

No specific terrestrial ecology conditions are proposed as no effects were identified that required impact management.

Council Specialist Review

Mr Simon Chapman, from Ecology New Zealand has prepared a technical memo on behalf of council covering his assessment of the submitted documents and recommendations. “Takaanini Level Crossings NoR Technical Expert s.42A report – Terrestrial Ecology”, Simon Chapman, Ecology NZ, 4 March 2024.

Mr Chapman advises that the Notices of Requirement (NoR) generally evaluate and avoid potential adverse ecological effects appropriately through the concept design presented in the general arrangement drawings. However, as detailed design will not occur until the time of regional consenting which may be a number of years away, it is possible that indigenous biodiversity (e.g., native bats, birds, and/or lizards) may be adversely affected by the Project.

Mr Chapman considers that risk should be addressed by including an advice note in the designation conditions to highlight that effects on indigenous terrestrial biodiversity are to be reassessed as part of the regional consenting process.

Mr Chapman advises that for Takaanini Level Crossings NoR 1 and NoR 2: the assessment of effects on indigenous flora and fauna is sufficient for designation purposes. However, he considers it would be prudent to including an advice note in the designation conditions to highlight that effects on indigenous flora and fauna are to be reassessed as part of the regional consenting process.

Mr Chapman advises that for Takaanini Level Crossings NoR 1 and NoR 2: the assessments of effects on freshwater and wetland is sufficient for designation. However, he considers it would be prudent to including an advice note in the designation conditions to highlight that effects on indigenous flora and fauna are to be reassessed as part of the regional consenting process.

Mr Chapman advises that no conditions relating to ecology have been proposed by the Requiring Authority. To ensure that the Ecological Assessment's recommendations are adhered to, the Wildlife Act is complied with, and potential future ecological effects are managed appropriately, Mr Chapman recommends that the designation conditions should include an advice note to highlight that further ecological assessments and or management plans may be required at the regional consenting stage.

The proposed advice note reads:

Ecology

Advice Note:

Depending on the potential effects of the Project, the regional consents for the Project may include the following monitoring and management plans:

(i) Stream and/or wetland restoration plans;

(ii) Vegetation restoration plans; and

(iii) Fauna management plans (e.g., avifauna, bats).

Submissions – no submissions relating to terrestrial ecology have been received.

Recommended Condition Changes:

- Ecology Advice Note (new condition)

Planning Review

I rely on the expert opinion of Mr Chapman in making my planning assessment and recommendations. I note there are no SEAs within the proposed designation boundary and there are no submissions that mention ecology. Mr Chapman notes that no conditions relating to ecology have been proposed by the Requiring Authority. To ensure that the Ecological Assessment's recommendations are adhered to, the Wildlife Act is complied with, and potential future ecological effects are managed appropriately, I support Mr Chapman's view that the exclusion of designation consent conditions relating to ecological matters can be considered acceptable if an advice note to highlight the requirement for further ecological assessments at the regional consenting stage is included instead. I consider that the addition of Mr Chapman's advice note will assist to avoid, remedy, or mitigate the potential adverse effects on terrestrial ecology.

5.1.11 Stormwater and Flood Hazard Effect Evaluation

Requiring Authority AEE

Flood hazard effects are addressed in section 11.7 of the AEE which refers to the Requiring Authority's technical report "Te Tupu Ngātahi Supporting Growth Takaanini Level Crossings Assessment of Flooding Effects" October 2023 Version 1 by Justin Kirkman.

Flood hazard effects have been assessed as a subset of stormwater effects, noting that flood hazard effects are the specific effects authorised by designations (i.e. would otherwise trigger a District Plan resource consent requirement under section 9(3) of the RMA). Other stormwater matters, including stormwater discharge quality, stormwater quantity including retention/detention), and effects on streams are regional plan matters that will be considered as part of a future consenting process, and accordingly are not assessed.

The future mitigation of stormwater effects (stormwater discharge quality and retention/detention) has been indicatively considered to ensure that sufficient is available within the proposed designation boundaries to provide for potential future requirements.

The Requiring Authority's Flooding Assessment recommends measures to avoid, remedy or mitigate construction effects with the overall recommendations outlined below. The primary mechanism to respond to these recommendations is the Construction Environmental Management Plan (CEMP) condition which is proposed as a condition for both NoRs (proposed Condition 15)

The Flooding Assessment recommends measures to avoid, remedy or mitigate effects anticipated during the operational phase of the Project. The primary mechanism for responding to these recommendations is the Flood Hazard condition proposed for both NoRs (proposed Condition 13).

Specific mitigation is described below for Manuia Road, Taka Street and Walters Road which may have potential adverse flooding effects as noted above:

- Manuia Road and Taka Street – Culvert with a flood offset storage area has been implemented in the design to compensate for storage loss and allow the overland flow-path through the project area to continue as well as offsetting localised culvert headwall effects; and
- Walters Road – The addition of a new culvert should include an inlet structure to relieve ponding due to elevated and widened design at Walters Road intersection.

Council Specialist Review

Mr Trent Sunich from SLR Consulting has prepared a technical memo on behalf of council covering his assessment of the submitted documents, response to relevant submissions and recommendations. "Auckland Council memorandum (technical specialist report to contribute towards Council's section 42A hearing report – Takanini Level Crossings Notices of Requirement – Stormwater and Flood Hazard Technical Assessment", Trent Sunich, SLR Consulting, 23 February 2024. His assessment focuses on the flood hazard (overland flow and flood plains) as a result of constructing and operating the designated infrastructure.

Based on the flood hazard assessment, the following table summarises the findings for each project area identifying key flood hazard issues, and for completeness, project areas where no operational flood hazard effects are expected:

Table 2: Flood Hazard Issues for TLC Projects from "Auckland Council memorandum (technical specialist report to contribute towards Council's section 42A hearing report – Takanini Level Crossings

Notices of Requirement – Stormwater and Flood Hazard Technical Assessment", Trent Sunich, SLR Consulting, 23 February 2024

Notice of Requirement	Key Flood Hazard Issues
NoR 1: Spartan Road and Manuroa Road	Operational flood effects at Spartan Road and Manuroa Road will be minimal as there is negligible to zero storage displacement nor redirection of flow paths. Therefore, no operational flood effects are expected at these locations
NoR 1: Manuia Road	• Flood depths within the footprint area will be displaced by fill earthworks and generate a localised increase in flood levels. • Compensatory cut earthworks will be required to maintain a neutral flood effect. • A culvert is required for flow path continuity on the northern side of the railway line and a widened bridge across the rail will allow the OLFP to continue to flow along the railway tracks to the south. • Freeboard to these houses upstream of the proposed culvert is presently around 1.3m which means the flood sensitivity of these residential properties from the Manuia Road level crossing works is low to negligible.
NoR 1: Taka Street	• This project area includes the removal of the existing level crossing and replacement with a new bridge structure across the rail. • This new bridge will avoid a large amount of flood effects that could have otherwise been generated by an earthworks embankment design. • The greatest depth of flooding is noted at the Great South Road end of the works (western tie-in) where fill earthworks will generate a localised increase in flood levels. • Compensatory cut earthworks will be required to maintain a neutral flood effect.
NoR 2 Walters Road	• The flood depths within the road footprint area are minimal and displacement effects are expected to be negligible. • The OLFP across the Arion Road – Walters Road intersection will be altered by the elevated road section and will cause flood effects to the upstream residential area in the vicinity of the Arion Road – Walters Road intersection. • Flood waters are expected to be trapped in the eastern corner of the Braeburn Place and Walters Road intersection which could cause flood effects to nearby residential properties.

Mr Sunich agrees with the approach undertaken in the Requiring Authority's Assessment of Flood Hazard Effects and finds the use of the risk criteria sufficient to identify the quantum of effect that current exists for various properties and correspondingly that will exist in the future when detailed design is completed via the proposed conditions of the Outline Plan process.

Submissions

Submissions relating to permanent (operational) effects flowing the development of the designations are assessed and addressed in Appendix 1 of Mr Sunich's report:

- NoR 1 – 6 submissions
- NoR 2 - 6 submissions

Where submissions have been raised with respect to the location of stormwater management devices, Mr Sunich has generally deferred this to the Requiring Authority to respond to as is indicated in Appendix 1 of his report.

Mr Sunich concludes that:

- The Requiring Authority has used a fit for purpose flood hazard risk assessment method using a series of steps to establish flood hazard risk areas.
- The flood hazard modelling accounts for the effects of climate change by adjusting for changes in temperature and rainfall patterns in accordance with MfE guidance.
- The flood hazard modelling and reporting of the results is suitable to inform the quantum of flood hazard that exists and whether the designation extent is suitable to implement mitigation practices though the performance related flood hazard designation conditions. Further flood hazard modelling will be required as part of the Outline Plan including modelling of post project landforms and infrastructure.
- Subject to the imposition of the designation conditions as amended by his recommended changes the proposal is consistent with the flood hazard related objectives and policies in the Auckland Unitary Plan.

Recommended Condition Changes:

- Condition 3: Land Use Integration process
- Condition 13: Flood Hazard.

Mr Sunich has requested that the Requiring Authority provides the following information either in evidence or at the hearing:

a) Clarification regarding the attenuation devices will lead to mosquito issues (Basil Kuriakose Portrush Lane and 6 Signatories: NoR 1 Submission 45).

b) Commentary of the submission in relation to 106-162 Great South Road (Dealership Properties Limited: NoR 1 Submission 18)

c) Whether the proposed works will affect the properties at 33 Oakleigh Avenue (B&F Papers Limited; NoR 1 Submission 12) and 37-39 Oakleigh Avenue (Aintree Group Ltd: NoR 1 Submission 15).

d) Whether the proposed designation works will affect infrastructure within the boundary of the Z Energy sites located at 166-168 Great South Road and 254 Great South Road (Z Energy: NoR 1 Submission 45 and NoR 2 Submission 22).

Planning Review

I rely on the expert opinion of Mr Sunich in making my planning assessment and recommendations.

It would be helpful for the requiring authority to provide a response at the hearing as requested by Mr Sunich.

Based on Mr Sunich's assessment, I consider that subject to the above, and the proposed conditions as recommended to be amended, the potential adverse effects on stormwater and flood hazard can be avoided, remedied, or mitigated.

5.1.12 Geotechnical Effects Evaluation

Requiring Authority AEE

The Requiring Authority did not provide a separate specialist assessment report relating to geotechnical effects as part of its AEE. The Requiring Authority's approach to geotechnical design is outlined at Section 9.5 of the AEE, which states:

> *"Geotechnical effects arising from construction of the Project will be dealt with as required as part of future regional consenting processes. The Project is currently seeking designations which authorises District Plan matters only, with the relevant assessment considerations limited to those within AUP:OP Chapters E12 Land Disturbance – District and E36 Natural Hazards. It is noted that the project areas are not on land that would be considered as land which may be subject to instability under the AUP:OP. Any RP requirements and necessary effects mitigation will be subject to additional future consenting processes and assessment."*

Council Specialist Review

Mr Patrick Shorten from Fraser Thomas Limited has prepared a technical memo on behalf of council covering his assessment of the submitted documents, response to relevant submissions and recommendations. "Supporting Growth Alliance – Submissions on Takaanini Level Crossings (TLC) Project NoRs 1 and 2, Geotechnical Engineering Assessment", Patrick Shorten, Fraser Thomas Limited, 4 March 2024.

For NoR 1, Mr Shorten requested in council's section 92 request that source data for the ground conditions at the NoR 1 sites be provided, as it was not provided in the notified documentation. The information he received advised that the approach to geotechnical design is summarised in section 9.5 of the AEE. The concept design on which the AEE is based was initially developed for a Detailed Business Case (DBC), which in turn is supported by a Design Report. The Design Report covers the approach to geotechnical design, and the data on ground conditions across the project area used to inform high-level design assumptions which have been summarised to the extent relevant in the AEE. Mr Shorten subsequently requested, and received, the "SGA Design Report" ("Te Tupu Ngātahi Supporting Growth Takaanini Level Crossings Appendix H – Design report" June 2023 Version 0.4 by Bruno Busnardo) to inform his assessment. As the SGA Design report was requested after with the other s92 information provided by the Requiring Authority was received, it was not publicly notified with the other s92 information and is provided as **Attachment 4** to this s42A report.

For NoR 2, the AEE report refers to reports by third parties. Mr Shorten states that sufficient information from the reports is provided in the AA report for the purposes of his review and he therefore decided to rely on that information.

Mr Shorten also requested information to demonstrate the relationship between the physical geometry and the proposed designation boundaries on each side of the structures.

Mr Shorten concludes that he concurs with SGA on their approach to geotechnical design for the NoRs and his opinion that their geotechnical assessment, as set out in the AA and Design reports, is sufficient for the purposes of determining concept designs for the proposed bridge structures and approach embankments and the Designation boundaries for NoR 1 and NoR 2. The main potential adverse geotechnical effect would be settlement in response to fill or structural loads or groundwater lowering, which could extend beyond the proposed Designation boundaries. This effect can be mitigated by design measures, which would be determined at the regional consent stage and would be subject to the AUP requirements.

Submissions

Submissions addressed by Mr Shorten relate to:

- Assessment of Alternatives – Geotechnical Aspects
- Adverse Geotechnical Effects

The key geotechnical issues, including issues with a geotechnical component, raised by the submissions relate to:

- The Assessment of Alternatives, which considers a range of options for the proposed crossings [including options of raising the railway (i.e. rail-over-road), lowering the railway (i.e. rail-under-road), raising the road (i.e. road-over-rail) or lowering the road (i.e. road-under-rail)], is deficient. This issue includes an assessment of Natural Hazards as part of the Multi - Criteria Assessment (MCA) of each option and therefore includes a geotechnical component; there has been inadequate consideration of alternative sites, routes or methods for the proposed grade-separated crossings;
- Adverse geotechnical effects on existing buildings and infrastructure at the Takanini Town Centre, including on the underground basement to the building in the southeast corner of the [Takanini Town Centre] site; Conditions should be imposed to ensure the minimum practicable impact on Takanini Town Centre especially in terms of …, geotechnical risks, …
- Insufficient information is provided to demonstrate that the designated works can proceed without undermining the foundations of the units to be constructed at 164-166 Porchester Road.

Mr Shorten's conclusions relating to the geotechnical issues that have been raised by the submissions on NoRs 1 and 2 are that:

a) Mr Shorten concurs with SGA on their approach to geotechnical design for the NoRs and it is his opinion that their geotechnical assessment, as set out in the AA and Design reports, is sufficient for the purposes of determining concept designs for the proposed bridge structures and approach embankments and the Designation boundaries for NoR 1 and NoR 2.
b) It is possible that there could be adverse geotechnical effects beyond the NoR boundaries, such as settlement or undermining of existing foundations. However, these potential adverse effects are able to be mitigated by appropriate design measures as part of the detailed design undertaken in support of the Regional Consent application for the proposed TLC works.

c) From the above excerpts from the Design Report (see section 3.2 of Mr Shorten's report), it is apparent that the available geological data indicates that the proposed alignments at Spartan Road and Manuia Road lie to the west of the Ardmore Peat deposits, which are soft and highly compressible, and are underlain by undifferentiated sedimentary deposits of the Takaanini Formation. The ground conditions for those two alignments are therefore inferred to be favourable for the proposed bridge structures and approach embankments with batter slopes of 1V:3H.

d) It is also apparent from the Design Report that the Ardmore Peat body potentially underlies the proposed alignments at Manuroa Road, Taka Street and Walters Road. The ground conditions for these three alignments are therefore inferred to be less favourable for the proposed bridge structures and approach embankments. SGA therefore propose maximum embankment heights of 2m and batter slopes of 1V:5H, and possibly ground improvement measures, for these three alignments.

e) With respect to the Natural Hazards criterion of the MCA, the SGA assessment is sufficient for the purposes of the NoR for Walters Road and Taka Street, which have similar ground conditions. However, the Manuia Road alignment is inferred to be clear (to the west) of the Ardmore Peat body and the ground conditions are therefore assumed to be more favourable than those at Walters Road.

f) The risk of any adverse geotechnical effects on the Takanini Town Centre buildings and services will be able to be mitigated by including appropriate measures in the detailed design for the works.

g) Provided the recommendations made by Mr Shorten are adopted by SGA, it is his opinion that the issues raised in the submissions should be able to be addressed satisfactorily.

Mr Shorten notes that NoR 1: Submission #17 – BP Oil NZ Limited, which relates to the property at 102 Great South Road (adjacent to the proposed Manaia Road alignment), specifically asks for the designation extent to be reduced (refer paragraph 13 of BP submission): "*The Submitter therefore seeks that the encroachment of the fill batter on the southern and western boundaries and berm into the site be reduced or amended to an alternative option, such as retaining, to enable the greatest possible site size to provide a workable service station*." It is therefore recommended that SGA provide a typical section(s) in order to demonstrate how the designation boundary has been set at that property and whether options are available to minimise the designation extent, thereby mitigating adverse effects on the property.

Recommended Condition Changes:

- including a condition in the NoR condition set that specifically requires potential adverse geotechnical effects to be addressed as part of the detailed design that will be undertaken in support of the Regional Consent application for the proposed TLC works.

Suggested condition wording:

Geotechnical Hazards

Potential adverse geotechnical effects on neighbouring properties shall be addressed as part of the detailed design for the Outline Plan (or Plans) for the proposed TLC works. The Outline Plan(s) shall show design measures to avoid, remedy, or mitigate any adverse geotechnical effects on the environment. Compliance with this condition shall be demonstrated in the Outline Plan(s).

Mr Shorten has requested that the Requiring Authority provides the following information either in evidence or at the hearing:

a) Provision of a typical section(s) in order to demonstrate how the designation boundary has been set at the BP Oil NZ Limited property at 102 Great South Road (adjacent to the proposed Manuia Road alignment) and whether options are available to minimise the designation extent, thereby mitigating adverse effects on the property (refer paragraph 13 of NoR 1: Submission #17 – BP Oil NZ Limited, which states: "*The Submitter therefore seeks that the encroachment of the fill batter on the southern and western boundaries and berm into the site be reduced or amended to an alternative option, such as retaining, to enable the greatest possible site size to provide a workable service station.*").

b) Confirmation that SGA's MCA assessment for Walters Road is applicable to the Manuia Road alignment, given the more favourable ground conditions at the latter site, which are likely to change the score for the Natural Hazards criterion; and

c) Confirmation that the overall score for the Manuia Road alignment is still more favourable for the Bridge option than for the Underpass option.

Planning Review

I rely on the expert opinion of Mr Shorten in making my planning assessment and recommendations. I rely on the expert opinion of Mr Shorten in relation to the information that the Requiring Authority is asked to provide in evidence at the hearing.

It would be helpful for the requiring authority to provide the responses at the hearing as requested by Mr Shorten.

I support Mr Shorten's comment that it would be helpful for the Requiring Authority to confirm whether the overall score for the Manuia Road alignment is still more favourable for the bridge option than for the underpass option. I rely on Mr Shorten's advice that with respect to the Natural Hazards criterion of the MCA, the SGA assessment is sufficient for the purposes of the NoR for Walters Road and Taka Street, which have similar ground conditions. However, the Manuia Road alignment is inferred to be clear (to the west) of the Ardmore Peat body and the ground conditions are therefore assumed to be more favourable than those at Walters Road.

I agree that the condition proposed by Mr Shorten would clearly signal that geotechnical effects will to be addressed and that this is when detailed design for regional resource consents is undertaken.

I consider that subject to the above, and the proposed conditions as recommended to be amended, the potential adverse geotechnical effects can be avoided, remedied, or mitigated.

5.1.13 Social Impact Evaluation

Requiring Authority AEE

Effects on social impact are addressed in section 11.8 of the AEE which refers to the Requiring Authority's Social Impact Assessment "Te Tupu Ngātahi Supporting Growth Takaanini Level Crossings Social Impact, prepared by Clare Wannamaker, Vicky Hu and Julie Boucher, dated October 2023 Version 1.0.

Pre-construction, construction, and operational effects are discussed in the AEE. The primary measure to respond to potential impacts during the pre-construction and construction phases is through NoR conditions. A number of NoR conditions are also proposed to respond to impacts arising during the operation of the project.

Pre-construction impacts include changes to people's way of life. As properties within the proposed designations are acquired for the project, people and businesses are likely to move from the area if alternative sites cannot be found. Businesses which are considered important to the community will potentially be lost, including early childhood education centres, a skills training centre, and a service station. As properties are acquired prior to construction, some properties might remain vacant and attract anti-social behaviour which may adversely affect people's perceptions of personal safety. People's health will potentially affected through increased stress and anxiety. The impact of a designation on a property can be felt as an impact on personal and property rights. There can also be effects on displaced or relocated businesses and their staff.

Construction effects will include temporary and permanent travel pattern disruptions, parking and access impacts, and safety concerns. Noise, dust and vibration can reduce the amenity of the area. Privacy issues and shading may be experienced. The aged care centre on Taka Street is noted as being particularly sensitive to construction activity.

The primary measure to respond to potential impacts during the pre-construction and construction phases is through NoR conditions. A number of NoR conditions are also proposed to respond to impacts arising during the operation of the project.

The primary proposed conditions to respond to pre-construction impacts are:

- Project information – Condition 2
- Stakeholder Communication and Engagement Management Plan (SCEMP) – Condition 9
- Land Use Integration Process – Condition 3.

The primary proposed conditions to respond to construction phase impacts are:

- Mana Whenua Kaitiaki Forum - Condition 11
- Construction Traffic Management Plan (CTMP) - Condition 18
- Construction Environmental Management Plan (CEMP) – Condition 15
- Construction Noise and Vibration Management Plan (CNVMP) – Condition 21 and Schedule to a CNVMP – Condition 22.

The SIA identifies the following potential adverse effects arising during the operation of the project:

- Permanent changes to access for properties and some intersections and roads
- Potential community severance and amenity impacts as a result of bridge structures including Walters Road and Taka Street,
- Potential risk of anti-social behaviour in the undercroft spaces of the bridges; and
- Potential nuisance from lighting and traffic noise from bridges.

The primary proposed conditions to respond to operational impacts are:

- Urban and Landscape Design Management Plan (ULDMP) - Condition 12
- Existing Property Access – Condition 14
- Designation Review – Condition 4.

Additional mechanisms (beyond the RMA framework) will also support these conditions such as the Public Works Act and AT internal policies to support affected landowners.

The Requiring Authority's SIA notes a number of key underlying assumptions. These include assumptions regarding construction duration and the existing and future environment.

Council Specialist Review

Ms Rebecca Foy of Formative Limited has prepared a technical memo on behalf of council covering her assessment of the submitted documents, response to relevant submissions and recommendations: "Technical specialist report to contribute towards Council's section 42A hearing report – Takaanini Level Crossings NoR 1 and NoR 2 Social Impact Assessment", Rebecca Foy, Formative Limited, 5 March 2024.

Ms Foy notes that the SIA focuses on the likely effects that will be experienced by people. This means that she has not addressed the technical matters arising from planning, noise, vibration, landscape effects, and traffic effects, and has relied on the relevant experts' opinions except where effects relate to residents, visitors and businesses operating within the wider community.

The key social impact issues in the NoRs are:

- Effects of designation prior to construction
- Effects of construction
- Operational effects.

Ms Foy identifies the following key issues that remain in contention after her review of the applicant's SIA and other supporting documents, including the responses to s92 request, as:

- There is an underlying assumption by the applicant that Takaanini will experience residential intensification to capitalise on the Mixed Housing Urban and Terraced Housing and Apartment Building zoning height provisions of three to six storeys in most locations. The SIA looks at the existing situation but acknowledges that there is significant uncertainty about the future built environment. The operational effects are assessed for an environment that reflects a changed higher intensity environment by the Assessment of Environmental Effects ('AEE') and the Assessment of Transport Effects ('ATE'). Those reports do not acknowledge the potential for environments to be a mix of old and new, and therefore do not consider the likely effects on people living in properties during the transitional phase of moving towards a higher intensity environment, though the SIA does acknowledge that existing properties will experience negative effects. That means that within the wider application some of the effects are compared to new buildings which would be designed to minimise some of the adverse effects, rather than looking at the effects on the older style homes that are present. Given the length of the designation, it is likely that some property owners and developers will wait to see what is delivered before commencing property development, and in some cases, people may not be able, or want, to develop their properties. For this reason, in Ms Foy's opinion there is a high level of uncertainty about whether there will be significant change and intensification in the environment by the time that the bridges are constructed.

- There is also an underlying assumption in the application that the positive social effects for the wider community will outweigh the negative social effects that will be experienced directly by properties adjacent and encompassed by the NoRs, despite the SIA highlighting that some of the effects on individual property owners and occupiers will be 'High' and 'Extreme'. Table 2 shows the number of directly affected properties by location for NoRs1 and 2. Table 3-1 in the applicant's SIA shows that in total there are 212 private properties affected and a further 10 publicly owned properties impacted. Approximately 52% of privately owned properties were residential (111), with the majority located in Taka Street (87). A further 47% were commercial properties (100), with high numbers impacted in Walters Road (46), Manuia Road (37) and Spartan Road (10). There was one religious property affected in Taka Street.2 A key issue is mitigating the adverse effects for individual property owners to ensure that the wider community can experience the positive social impacts while minimising the negative effects for individual property owners. There are more than 7,900 properties within the study area, so the number of impacted properties makes up to approximately 3% of total properties.

Count of Properties Impacted by NoRs[3] (from AEE Table 8-1**)**

NoR Location	Properties partially impacted	Properties completely impacted
NoR1 - Spartan Road	12	0
NoR1 – Manuia Road	19	22
NoR1 – Manuroa Road	9	3
NoR1 – Taka Street	86	16
NoR 2- Walters Road	47	17
Total	173	58

[2] Note, the numbers of affected properties contained in Table 8-1 (referenced below) do not add up to the number of properties provided in Table 3-1 of the SIA. An explanation should be provided as to which numbers are the most appropriate to use at the Hearing.

[3] Te Tupu Ngātahi Supporting Growth, October 2023. Volume 2 Takaanini Level Crossings Assessment of Effects on the Environment, Table 8-1

- There is also an underlying assumption that property owners and occupants are expected to be fairly compensated for loss of property and impacts on the operation of businesses through the Public Works Act ("PWA"). That process is expected by the proponent to be clearly explained in communication with affected property owners and occupiers, and compensation is expected to adequately address the losses to property values and business revenue. Ms Foy acknowledges that there are established and well tested mechanisms in the PWA to provide compensation for a range of types of loss as a result of public works. However, she understands that the process involved in pursuing such compensation can be time consuming, costly, and potentially intimidating for some affected property or business owners to pursue. That means that involvement in the PWA process can in itself be a negative social effect that can lead to increased levels of stress and anxiety and feelings of dissatisfaction with the outcomes of the system.

- There is also an assumption that the proposed severance of communities by bridges is the best alternative, rather than using undergrounding techniques. The Papakura Local Board has raised concerns in particular about the effects of the bridges on the Takanini Town Centre due to the proposed Walters Road Bridge which will separate the Town Centre from the industrial and training activities that are located on the southern side of the road. Additionally, the Papakura Local Board has also raised concerns about the impacts on accessing goods and services at the Takanini Gateway centre due to the proposed changes at Manuia and Manuroa Roads. These are both important centres within the community that provide locals and visitors with access to goods and services, and changes to the ease with which these businesses can be accessed may cause a decline in profitability and their presence may be lost from the local community as there are very few alternative sites available within the wider area for larger businesses in particular.

- The SIA uses a rating system to classify the social impacts for each element, which is a common approach used in SIAs. Because the weightings are generalised, they do not show the spectrum of social effects that can be experienced differently by individuals at different stages of the project. People respond differently to impacts based on their own experiences and perceptions and appetite for risk/making trade-offs, and for this reason a continuum of impacts can be experienced by individuals where one person may experience significant impacts and another may be much less affected by the same issue. Applying a generalised weighting can in many cases mask the range of effects experienced.

Ms Foy generally agrees that the applicant's SIA has appropriately identified the affected surrounding land uses and community facilities, residential properties and businesses that are likely to be affected at the three different stages of the proposed development: prior to construction, during construction, and in operational terms. The defined social areas of influence are also appropriate.

Ms Foy notes that the SIA has covered the spectrum of impacts that can be expected to occur and has weighted those using a weighting scale which is a commonly used methodology. In some instances she disagrees with the weightings that have been applied and provides her rationale for those opinions. She has summarised those effects identified in the remaining parts of Section 4.0 of her report using the seven key areas that she typically uses to define social impacts: urban form, access and connectivity, livelihoods, health and safety, social cohesion, social equity, and environment.

Submissions

Ms Foy has reviewed the submissions lodged in relation to the NoRs, and summarises in Table 3 the issues raised relating to social impacts. Due to the extent of submissions, themes have been identified and, these have been discussed together

Many of the social effects that are identified in the AEE, the SIA and the ATE have been raised by submitters. A number of the submissions relate to specific properties. Ms Foy discusses the submissions and the themes they relate to in considerable detail in her report. Many of the submissions with a social dimension also relate to other topics within this s42A report, and Ms Foy notes where she defers to other council experts' opinions.

Social Impact Issues raised in Submissions (from Table 3 in "Technical specialist report to contribute towards Council's section 42A hearing report – Takaanini Level Crossings NoR 1 and NoR 2 Social Impact Assessment", Rebecca Foy, Formative Limited, 5 March 2024)

Social Impact Issues		Number of Submissions
Social effects of designation prior to construction		
Extended length of NoR designation	NoR 1	18
	NoR 2	10
NoR effects on property sale/value/development	NoR 1	10
	NoR 2	2
Consultation limitations	NoR 1	8
	NoR 2	2
Assessment of alternatives	NoR 1	1
	NoR 2	0
Social effects of construction		
NoR effects on physical operation of businesses	NoR 1	24
	NoR 2	10
Health and safety	NoR 1	2
	NoR 2	4
Parks, open space, and education	NoR 1	5
	NoR 2	4
Social cohesion and social equity	NoR 1	1
	NoR 2	0
Social effects of operation		
NoR effects on physical operation of businesses	NoR 1	32
	NoR 2	10
Residential amenity	NoR 1	3
	NoR 2	3
Urban design	NoR 1	6
	NoR 2	4
Health and safety	NoR 1	16
	NoR 2	14
Parks, open space, and education	NoR 1	4
	NoR 2	5
Social cohesion and social equity	NoR 1	3
	NoR 2	0
NoR Conditions	NoR 1	7
	NoR 2	5

Ms Foy concludes that

a. In her opinion the NoRs will have significant positive outcomes for the wider communities by removing safety and congestion issues associated with the existing level crossings which are likely to become worse in the future. The proposal is consistent with the direction and framework of the Auckland Unitary Plan (AUP), including giving effect to the Regional Policy Statement ("RPS").

b. She confirms that the SIA undertaken by the applicant is thorough and has considered the range of social effects that may arise from the proposed changes and highlighted that many of those effects will be very significant to immediately affected parties. There has been an appropriate level of effort put into contacting and communicating with affected parties, though there has been frustration expressed by submitters potentially due to the limited information currently available.

c. Ms Foy has outlined her specific recommendations with respect to submitters' concerns about the proposed conditions in Section 5.0 of her report, and her concerns about the lack of clarity of how suggestions in the SIA about mitigation strategies have not been incorporated in conditions in Section 6.0 of her report. Several matters were widely raised in submissions and require more clarification and incorporation of specific provisions in the conditions to guarantee that issues identified in the SIA and submissions are adequately addressed.

d. An explanation should be provided by the Requiring Authority about the reasons for the differences in the total numbers of affected properties contained in Table 8-1 of the AEE and Table 3-1 of the SIA at the hearing, and guidance about which numbers are correct.

e. An explanation should be provided by the Requiring Authority at the hearing about the key elements of a Community Health and Wellbeing Strategy (CHWS) and how the Project Information Condition (PIC) ensures that these steps will be followed as the applicant's SIA recommends the CHWS as an important mitigation strategy. The conditions that she has proposed for the Development Response Management Plan (DRMP) combine what she would expect to be involved in a CHWS with a DRMP.

f. An explanation should be provided at the hearing about the key elements of a Good Neighbour Policy (GNP) and how the Construction Environmental Management Plan (CEMP) Condition ensures that these strategies will be followed as the applicant's SIA recommends the GNP as a mitigation strategy and this appears to not be covered adequately. The amended conditions that she has proposed to the CEMP have addressed what she would expect needs to be included.

g. Many submitters have highlighted that they have an active interest in the design of the proposed new transport routes and the likely effects on their properties, businesses, and the surrounding transport network. This registration of interest should be recorded as part of the Project Information condition, and those parties should be invited to participate in future stakeholder group or individual meetings. The list of key stakeholders should extend out to other parties in the wider environment rather than solely those properties directly affected by the property designations. Ongoing clear and open communication is an important mechanism for avoiding grievances and placing additional stress on residential and business owners and occupiers and users of social infrastructure.

h. In addition to those recommendations, it will be important to ensure that Auckland Council is provided with the ability to review any of the plans that are identified in the conditions to ensure that the social effects of each stage are adequately considered.

i. Overall, Ms Foy supports the NoRs, but considers that the mitigation strategies proposed by the applicant's SIA are better incorporated in revised or new conditions and that particular consideration is given to how information is communicated to affected parties through advisory services in the long period between the Project Information Condition (PIC) and the Construction Environmental Management Plan (CEMP) so that concerns can be actively discussed, directly affected parties can easily access Public Works Act compensation, and community views can be incorporated into designs.

Recommended Condition Changes:

- Condition 2 – Project Information
- Condition 7 - Amendments to Outline Plan
- Condition 9 Stakeholder Communication and Engagement Management Plan (SCEMP)
- Condition 15 Construction Environmental Management Plan (CEMP).

Recommended New Conditions:

- Development Response Management Plan
- Property Management Strategy.

Ms Foy has requested that the Requiring Authority provides the following information either in evidence or at the hearing:

a) Explanation about the reasons for the differences in the total numbers of affected properties contained in Table 8-1 of the AEE and Table 3-1 of the Social Impact Assessment (SIA), and guidance about which numbers are correct.

b) Explanation about the key elements of a Community Health and Wellbeing Strategy (CHWS) and how the Project Information Condition (PIC) ensures that these steps will be followed as the applicant's Social Impact Assessment (SIA) recommends the CHWS as an important mitigation strategy. The conditions that Ms Foy has proposed for the Development Response Management Plan (DRMP) combine what she would expect to be involved in a CHWS with a DRMP.

c) Explanation about the key elements of a Good Neighbour Policy (GNP) and how the Construction Environmental Management Plan (CEMP) Condition ensures that these strategies will be followed as the applicant's Social Impact Assessment (SIA) recommends the GNP as a mitigation strategy and this appears to not be covered adequately. The amended conditions that Ms Foy has proposed to the CEMP have addressed what she would expect needs to be included.

Planning Review

I rely on the expert opinion of Ms Foy in making my planning assessment and recommendations. I rely on the expert opinion of Ms Foy in relation to the information that the Requiring Authority is asked to provide in evidence at the hearing.

Many of the submission matters raised in other topics of this s42A report also have a social dimension. Many of the submitters are concerned about uncertainty.

I note Ms Foy's comment that "Ongoing clear and open communication is an important mechanism for avoiding grievances and placing additional stress on residential and business owners and occupiers and users of social infrastructure."

It is important to have clear mechanisms so that concerns throughout a long designation process can be actively discussed, directly affected parties can easily access Public Works Act compensation, and community views can be incorporated into designs.

I also agree that a key issue is mitigating the adverse effects for individual property owners to ensure that the wider community can experience the positive social impacts while minimising the negative effects for individual property owners.

I note that the SIA's recommendations have not all been carried across to the Requiring Authority's proposed conditions. I consider Ms Foy's proposed suite of condition changes and new amendments are a way to address this concern.

I consider that subject to the above and with the suite of condition changes and new conditions as recommended by Ms Foy, potential adverse effects on social impact can be avoided, remedied, or mitigated.

5.1.14 Urban Design Evaluation

Requiring Authority AEE

The Requiring Authority's approach matters of urban design is outlined in section 9.3 of the AEE which refers to the Requiring Authority's technical report "Te Tupu Ngātahi Supporting Growth Takaanini Level Crossings Urban Design Evaluation (UDE)" October 2023 Version 1 by Harry Linford.

Urban design input has been considered to inform the Project's design, the alternatives assessment process, and the proposed designation footprint. The Urban Design Evaluation (**UDE**), has been undertaken for the project based on the principles set out in Te Tupu Ngātahi Urban Design Framework (appended to the UDE). The UDE provides urban design commentary on the concept design of the proposed Takaanini Level Crossings and recommends how urban design opportunities and outcomes could be considered in future design stages of the project.

The UDE assessment methodology puts forward five key headings (with each having more detailed points of consideration). The key headings or urban outcomes (please refer to UDE Appendix A for full details) for assessment purposes are:

- Environment – Principle 1.1 - 1.4
  - Support and enhance ecological corridors and biodiversity.
  - Support water conservation and enhance water quality in a watershed.

- Minimise land disturbance, conserve resources and materials.
- Adapt to a changing climate and respond to the microclimatic factors of each area.

- Social – Principle 2.1 - 2.5
  - Identity and place.
  - Respect culturally significant sites and landscapes.
  - Adaptive corridors.
  - Social cohesion.
  - Safety.

- Built Form – Principle 3.1 - 3.3
  - Align corridors with density.
  - Corridor scaled to the surrounding context and urban structure.
  - Facilitate an appropriate interface between place and movement.

- Movement – Principle 4.1 - 4.6
  - Connect nodes.
  - Support access to employment and industry.
  - Prioritise active modes and public transport.
  - Support inter-regional connections and strategic infrastructure.
  - Support legible corridor function.

- Land Use – Principle 5.1 - 5.2
  - Public transport directed and integrated into centres.
  - Strategic corridors as urban edges.

The UDE also recognises the policy context of national planning documents such as National Policy Statement on Urban Development (NPS-UD) and Government Policy Statement on Land Transport. It also considers the more specific 'local' level policies and guidance, including the Regional Policy Statement and AUP(OP) chapters.

Overall, the UDE concludes that the project is generally supportive of the Urban Design Framework principles. In particular, the Project will be designed to achieve the following outcomes:

- Integration (particularly of project elements like bridges, retaining walls and access lanes) with the adjacent urban and landscape context including the surrounding urban environment, natural environment, and open space zones. This includes:
  - Providing appropriate interfaces to existing development like the Takanini Care Home, changing adjacent built forms and community amenities such as Takaanini Train Station, Takaanini Reserve and Takaanini Town Centre;
  - Supporting direct access to existing centres, schools, community functions, train stations and open spaces like Takaanini Reserve;
  - Providing appropriate walking and cycling connectivity to and interfaces with existing and future adjacent land uses, public transport infrastructure (e.g., Takaanini Station) and other walking and cycling connections;

- Promoting a sense of personal safety and addresses potential risk areas (e.g., under the adjacent bridge structures and areas connecting to Takaanini Train Station and Takaanini Reserve) by aligning with best practice guidelines such as Crime Prevention Through Environmental Design (CPTED) principles and anti-vandalism/anti-graffiti measures; and
- Inclusive access with infrastructure that considers the needs and safety of people of all ages and abilities.

An Urban and Landscape Design Management Plan (**ULDMP**) is recommended to be prepared prior to implementation which will allow further development of the design outcomes and opportunities recommended above as well as other design matters not specifically covered in the UDE.

Council Specialist Review

Mr Jason Evans from ET Urban Design Ltd has prepared a technical memo on behalf of council covering his assessment of the submitted documents, response to relevant submissions and recommendations: "Proposed Notice of Requirement (NoR 1) and NoR 2 Takaanini Rail Crossings", Jason Evans, ET Urban Design Ltd, 7 March 2024.

Mr Evans agrees the UDE's approach provides a useful framework to assess the various outline works contained with the NoRs. He has broadly adopted this approach so direct comparisons can be made between the UDE assessment and his assessment.

Mr Evans comments that in terms of the linkage between the UDE and the Assessment of Environmental Effects (AEE) he notes that the UDE does not appear to be a part of the AEE but is noted that the UDE considers the Project is 'generally supportive' of the Urban Design Framework (UDF) principles. Whilst he agrees that the outline plans do satisfy many of the 'movement' based criteria of the UDF they do not, in his opinion, resolve satisfactorily the social, built form and to some degree, environmental aspects. The key difference in Mr Evans' assessment and conclusions to that of the UDE is that in many areas Mr Evans considers the likely adverse urban design effects of the Taka St and Walters Road outline plans to be significant and unlikely to be appropriately mitigated by detailed design.

A further difference in Mr Evans' approach and assessment is the weighting given to the PC78. The UDE places considerable emphasis on the likely future built environment as a touchstone for the scale and massing effects of the outline plans. Mr Evans considers too much weight is placed here and that a more cautious approach is warranted when considering the potential physical effects of the proposed crossings. His reason for adopting this position is twofold:

1. The relatively early stage of notification and postponement of Hearings for PC 78.
2. Practical experience of development in existing higher density zones.

He considers that the first of his reasons requires no further explanation, and the second he addresses in his review of the UDE Assessment. To briefly recap, however, it is his experience that within the present THAB zones, apartment development is far from the normal development type and terraced housing is far more popular. The reasons for this are many but some common factors favouring town houses ahead of apartments are, cost, complexity, timescales and frequently difficulties in maximising development yield because of planning factors such as height in relation to boundary controls, shading and privacy effects. Given this experience, Mr Evans considers the likely future built environment will likely shift towards 2 and 3 storey buildings, with apartment buildings (6 storeys) limited to 'special' sites.

Submissions

Mr Evans comments that he has read the submissions for both NoRs and many common concerns emerge from submitters, including the likely effects to business viability or operation, damaged property values, environmental effects (dust, noise, flooding) and traffic (including parking) effects. These are matters that he considers relevant in the broader remit of urban design, but not constituting focal point elements for his memorandum. He notes the more central urban design matters together with the relevant submission numbers, which are;

1. Scale and massing effects [NoR 1 #11,37,38,39,40; NoR 2 #9,10,11,15,17,18,19,20]

   The scale, visual and associated massing effects of the proposed crossings are discussed in these submissions and principally relate to the effects of both the Taka Street and Walters Road outline plans. Concerns encompass:

   - The visual impact of the outline proposals from public and private spaces.
   - The scale and massing of the proposed development in response to and respect of the existing context.
   - The effects of the proposed scale and massing on sunlight access and shadow patterns in the surrounding area.
   - The scale of the development from a human perspective, including how it will feel to pedestrians/cyclists adjacent to the structures.

   Whilst the proposed crossings are only conceptual in nature, Mr Evans shares the submitters' concerns that the overall massing of the structures relative to the built environment may generate adverse effects in terms of visual amenity, harmony and physical shading effects.

   Mr Evans notes that Walters Road, Taka St and Manuia Road crossings all feature concept 3D visualisations, but he considers these of limited value in determining the proximate effects of massing relative to the existing environment and the suitability of the landscape mitigation. This is a matter of particular concern for 7 and 9-13 Taka Street where the proximity of the bridge structure and access arrangements suggest the extent of designation may not be suitable vis a vis accommodating the bridge and mitigating likely effects. He would therefore like to have further details on the outline design presented at the Hearing by the Requiring Authority. Mr Evans also considers it beneficial to have additional detail of the treatment to 21-27 Walters Road. He notes that the designation includes the whole land parcel for each property, but the outline plan does not provide any

corresponding design concept in the same way as is provided elsewhere. Mr Evans considers this important, particularly with regard to determining access requirements and likely future interface relationships between development and the bridge.

2. Crime Prevention Through Environmental Design (CPTED).[NoR 1 #20,27,37,38,39,40,43; NoR 2 #4,9,10,11,13,17,18,19,20,23]

   Mr Evans notes that each of the submitters raises concerns related to the safety of future environments for walking, cycling and the prospect of the resultant environment generating opportunities for anti-social behaviour and crime. Collectively, such concerns are usually addressed under the collective heading of CPTED which provides a framework to assess proposals in the planning stage. The main principles of CPTED are:

   - Natural Surveillance: Designing spaces in a way that maximises visibility and allows people to observe their surroundings easily. This can include features such as encouraging overlooking of the street, lighting, planting and clear sightlines.
   - Territorial Reinforcement: Establishing a sense of ownership over a space by delineating property lines clearly and using architectural elements, landscaping, and signage to communicate ownership and discourage trespassing.
   - Access Control: Managing and controlling access to spaces through strategies such as fencing, gating, and landscaping. Limiting access points and controlling movement in association with other design measures can help reduce opportunities for criminal or anti-social activity.
   - Activity Support: Encouraging legitimate use of spaces through design features that promote social interaction and community engagement. This can include amenities like seating areas, recreational facilities, and public art. This extends the concept of ‘eyes on the street’ and civic ownership.
   - Maintenance and Management: Ensuring that spaces are well-maintained and managed to prevent signs of neglect or disrepair, which can encourage criminal activity and anti-social behaviour. Regular maintenance, graffiti removal, and community involvement in upkeep are important aspects.

   Mr Evans acknowledges the ULDMP recognizes the importance of CPTED as an assessment tool for detailed design development, but based upon the outline plans he shares the submitters’ concerns with the recommended design approach indicated for all proposed crossings but particularly those for Taka Street and Walters Road. He states that even at this early design stage there are a number of specific concerns including:

   - Suggested pedestrian and cycle connections beneath bridges that create safety hazards for pedestrians and may discourage walking/cycling as a mode of transportation.
   - Lack of passive surveillance opportunities. Unobserved pedestrian/cycle access routes may contribute to feelings of insecurity. Unobserved areas are generally discouraged in the public realm because of the opportunities they present for crime and anti-social behaviour.

- Lack of territorial definition for affected sites e.g. 21-27 Walters Road.
- Effects on the setting of Takanini Reserve.

Mr Evans recommends the Requiring Authority present additional evidence at the Hearing to demonstrate at the outline plan stage how these concerns may be successfully addressed.

3. Legible and connected spaces.[NoR 1#5,10,11,21,37,38,39,40,43; NoR 2 #4,9,10,11,13,17,18,19,20,22,23.]

   With respect to legibility and connectivity Mr Evans considers exists some crossover exists with the CPTED concerns, particularly with respect to the suggested routes beneath bridge structures. Additional areas of concern however relate to the mode of access – bridge or underpass. This discussion is relevant to both the active mode and multi-modal options. Mr Evans notes that in terms of the active mode connections, provision is made in the ULDMP condition 12(g)(iii)g. This suggests that the option of underpass design solutions are not dismissed as potential solutions at this time. Mr Evans acknowledges that in terms of CPTED matters, underpasses are not without their own concerns, but he agrees that at this outline stage they should remain an option. As for the multi-modal connections, particularly those for Taka Street and Walters Road the option of an underpass solution or rail trench solution are not favoured by the Requiring Authority. Similar to the active mode connection, Mr Evans considers, given the outline plan status, removing the option of underpass connection is premature and that it should remain an option for further investigation noting that Waka Kotahi's EAST assessment tool concluded road under rail (as a broad option) was 'Not preferred but not yet discounted – no fatal flaw identified but not preferred given greater cost and construction disruption anticipated compared with a bridge.' (Table 6.6. AEE – Assessment of Alternatives). Mr Evans further notes that the subsequent Multi Criteria Assessment of the option only considered the Walters Road crossing and did not undertake a similar exercise for Taka Street.

The central conclusion of Mr Evans' assessment is that whilst at a high level the purpose of the NoRs will achieve an improved degree of connectivity, the physical effects of doing so are likely to result in adverse urban design effects for some locations. Some of these effects may be adequately mitigated by future design refinement and decisions. In particular, Mr Evans accepts that the crossings proposed at Spartan Road, Manuia Road and Manuroa Road can conceivably be refined to achieve an acceptable urban design outcome given their respective contexts.

Mr Evans remains unconvinced on the basis of the outline plans for Taka St and Walters Road that the effects of the proposal will not be adverse and capable of adequate mitigation through the UDLMP process. Specifically, he considers the likely massing effects of the bridge structures will result in adverse amenity effects, create areas unsafe from a CPTED perspective and not integrate suitably with the surrounding development. Mr Evans has however reviewed the conditions contained in the UDLMP in the event that the NoRs are approved and has suggested amendments where necessary.

Recommended Condition Changes:

- Condition 3: Land Use Integration Process

- Condition 12 Urban and Landscape Design Management Plan (ULDMP)

Mr Evans has requested that the Requiring Authority provides the following information either in evidence or at the hearing:

a) Show clearly how access to 9-13 Taka Street will be achieved and relative massing of a bridge crossing to the property. The plan should include details of how the access lane would connect to Taka Street safely and enable the Z petrol station to continue to operate. And demonstrate the spatial arrangement and suitability for mitigating landscape measures to ensure there is enough space to manage effects.

b) Additional detail of the treatment to 21-27 Walters Road is required. The designation includes the whole land parcel for each property, but the outline plan does not provide any corresponding design concept in the same way as provided for other project areas. This is important, particularly with regard to determining access requirements and possible interface relationships.

c) Confirmation that the use of underpass design solutions for active mode crossings remain an option as suggested by condition 12(g)(iii)g - Urban and Landscape Design Management Plan (ULDMP).

d) For both the Taka St and Walters Road proposals, the Requiring Authority considers the proposals will add to the 'vibrancy and activation of the urban area' (Principle 3.1 UDE). The Requiring Authority should present additional evidence to explain how it is envisaged the proposals will enable this. The evidence also address the high level CPTED concerns highlighted, in particular the role of passive surveillance and territoriality.

Planning Review

I rely on the expert opinion of Mr Evans in relation to the information that the Requiring Authority is asked to provide in evidence at the hearing, and the proposed condition changes he suggests.

I agree with that part of Mr Evans' conclusion that whilst at a high level the purpose of the NoRs will achieve an improved degree of connectivity, the physical effects of doing so are likely to result in adverse urban design effects for some locations.

I agree with Mr Evans' expert opinion that he accepts that the crossings proposed at Spartan Road, Manuia Road and Manuroa Road can conceivably be refined to achieve an acceptable urban design outcome given their respective contexts.

I note Mr Evans' expert opinion that he is unconvinced on the basis of the outline plans for Taka St and Walters Road that the effects of the proposal will not be adverse and capable of adequate mitigation through the UDLMP process. Mr Evans considers the likely massing effects of the bridge structures will result in adverse amenity effects, create areas unsafe from a CPTED perspective and not integrate suitably with the surrounding development. Mr Evans considers, given the outline plan status, removing the option of underpass connection is premature and that it should remain an option for further investigation at Taka Street and Walters Road.

I support Mr Evans' request for further information to be provided at the hearing by the Requiring Authority in relation to the Taka Street and Walters Road proposals. Provision of the information requested from the Requiring Authority by Mr Evans will assist me to confirm my planner's view on this topic.

5.1.15 Property and Land Use Effects Evaluation

Requiring Authority AEE

Direct effects on property and land use are addressed in Section 11.9 of the AEE. The AEE notes that potential adverse effects on existing private properties have been reduced where practicable through the development of the Project concept design and the proposed designation boundary.

Notwithstanding this, the AEE states that a functional and operational need for the project has been identified to address the demand for east-west connections in the Takaanini area. Where impacts on properties and businesses cannot be avoided, the potential effects are discussed in Section 9 of the AEE and detailed in the SIA.

The proposed NoRs require land to provide a sufficient footprint to enable the construction and operation of the Project. The land required for the Project is shown in the general arrangement layout plans included with the application (refer to Volumes 1 and 3). Land required for the permanent work will be acquired prior to construction.

The post construction effects are noted in section 11.9 of the AEE where it is noted that following the Completion of Construction, the designation boundary will be reviewed, through the proposed Designation Review Condition (Condition 4) and any land not required for the permanent work or for the ongoing operation, maintenance or mitigation of effects of the Project will be reinstated and reintegrated in coordination with directly affected landowners or occupiers.

This will include:

- Reinstatement of construction areas and reintegrating with the surrounding landform;
- Reinstatement of parking spaces, driveways, accessways, fences and gardens; and
- Integration of batters and cut/fill slopes with the landscape.

The AEE states that these matters will be discussed prior to and during construction with directly affected landowners and will follow the provisions under the Public Works Act which is a process separate to the requirements of the RMA. Proposed conditions such as Existing Property Access (Condition 14) and Urban and Landscape Design Management Plan (ULDMP) (Condition 12) will also help address some of the above matters alongside the Public Works Act process.

The timing for this process occurring is unstated in the AEE

Council Specialist Review

No specific Council specialist assessment has been sought for effects on property and land use. Property matters are addressed in a number of council specialists' evaluations, including Traffic and Transport, Noise and Vibration, Geotechnical, Social Impact, Urban Design, and Development Engineering.

Submissions

Submissions have been allocated to various specialist topics _NoR 2 Submission 24 (Manpreet Kaur) was originally thought to be a submission relating to North NoR 4. That submission is not specifically listed in expert evaluations, but raises similar property concerns to the submissions addressed in those evaluations.

Planning Assessment

It is acknowledged that the NoRs provide for route protection with the design of the works and the final amounts of land take required, either temporarily for construction purposes, or permanently for the operation of the works, are yet to be determined. However, the extent of the designation combined with the extended lapse period creates uncertainty for directly affected parties on the scale of the effects, how the effects will be mitigated, and what activity/development can occur on the land affected by the designations in the interim.

The proposed definition of "road widening" in the Advice Note located at the end of proposed Condition 12 Urban and Landscape Design Management Plan (ULDMP) for each of NoR 1 and NoR 2 would have an effect on the use of designated properties. It reads:

"Advice Note

This designation is for the purpose of construction, operation and maintenance of an arterial transport corridor and it is not for the specific purpose of "road widening". Therefore, it is not intended that the front yard definition in the Auckland Unitary Plan which applies a set back from a designation for road widening purposes applies to this designation. A set back is not required to manage effects between the designation boundary and any proposed adjacent sites or lots."

It is understood that the intention of this advice note is to minimise the extent to which new development or redevelopment of sites has front yards which are larger than necessary, particularly for situations where land within a designation is no longer needed for construction or operations of the public work. However, it is not clear that the NoR is not, at least in part, for the purpose of 'road widening'. Form 18 for each of NoR 1 and NoR 2 states that:

"The purpose of NoR …is consistent with the activities outlined above. In general terms, the activities to be enabled by the designation include ***corridor widening…"*** (emphasis added).

Further information explaining how 'corridor widening' is not 'road widening' was sought from the Requiring Authority in council's s92 request, so as to understand the effect of the proposed Advice Note. Road is defined in the RMA as having the same meaning as s.315 of the Local Government Act 1974. There is no definition of 'road corridor' in the Local Government Act 1974. The following definition of road, which says that 'road' is 'road corridor' or 'road reserve' was accessed on Auckland Transport's website on 20 October 2023 https://at.govt.nz/about-us/working-on-the-road:

> *Road definition*
>
> *The road (road corridor or road reserve) is defined as the area from the private property boundary on one side to the property boundary on the other. This includes the berm (grass verge), footpath and carriageway.*

It was also not clear what this advice note will mean for the eventual proximity of new development or redevelopment of sites in relation to the edge of the widened road corridor, if the extent to which the designations provided for by the Takaanini NoRs affects frontages is disregarded when front yard setbacks are being determined for that new development and redevelopment of those sites. Further explanation of the intent and anticipated outcomes from the advice note was therefore also sought in council's s92 request.

The Requiring Authority responded in its s92 response to council that:

> *… the intent of the advice note is to clarify that front yard setback rules for relevant adjoining zones do not apply from the edge of the designation boundary to ensure that front yard setbacks are not larger than necessary and result in an unintended land use integration outcome. To this end, the advice note stated that the designation is not for the purpose of 'road widening' to clarify that the AUP:OP definition of front yard Is not intended to be measured from the designation boundary in this context.*
>
> *Notwithstanding this, it is acknowledged that 'road widening' and 'corridor widening' are otherwise similar in meaning on the ground. The purpose of the advice note is to clarify the interpretation of plan rules as the relate to the designation boundary rather than debate the scope of physical works. Accordingly, while we consider the advice note is an important clarification for land use integration outcomes, it could be deleted if required to avoid confusion. This advice note was on added to assist integration concerns raised by urban design experts and other public entities in the past.*
>
> *From a practical perspective, we note that any road widening works will require work across the whole arterial corridor in any event.*

To avoid confusion, I recommend that this advice note be deleted from Condition 12.

Recommended Condition Changes:

- Condition 12: Urban and Landscape Design Management Plan (ULDMP)

Since the NoRs were served on Auckland Council, pursuant to Section 178(2) of the RMA, the proposed designations have had adverse effects on normal property and land use activity on both adjacent land and particularly directly affected land as no person may do anything that would prevent or hinder the public work, project, or work to which the designation relates unless the person has the prior written consent of the requiring authority.

In terms of the effects on the directly affected land, while I note that the Public Works Act 1991 (PWA) is the legislative framework under which entitled landowners will receive compensation and that this is a non-RMA process, the restrictions imposed on private property are an adverse land use effect. This is because the uncertainty that the NoRs can create for landowners can result in some landowners being reluctant to actively manage their land. The proposed 15 year lapse period of the NoRs adds to the uncertainty and this potential outcome.

There needs to be a balance between the practical needs of the Requiring Authority to protect and secure the route, and the effects of the extents of the designations, and the extended lapse periods, on property owners and occupiers.

Various specialists have suggested condition amendments or requested additional information in relation to property matters. For example, Ms Foy in her Social Impact evaluation recommends changes to Condition 2 – Project Information, Condition 7 – Amendments to Outline Plan, Condition 9 Stakeholder Communication and Engagement Management Plan (SCEMP), and Condition 15 Construction Environmental Management Plan (CEMP). Ms Foy also recommends new conditions creating a Development Response Management Plan and a Property Management Strategy. One of the purposes of Ms Foy's proposed changes is to help reduce uncertainty.

Mr Peake's Traffic and Transport evaluation, Mr Shorten's geotechnical evaluation and Mr Evans' Urban Design evaluation include requests for the Requiring Authority to address effects on specific properties, and the spatial extents of the designations.

Lapse period

I acknowledge that an extended lapse period is a practical approach as it will provide the required statutory protection of the future transport routes .

If the proposed lapse dates were reduced, the requiring authority could request an extension of the lapse period within 3 months of the lapse date under section 184 of the RMA. However, there is no certainty for the Requiring Authority that an extension would be granted if it could not provide supporting evidence that substantial progress or effort has been made, and is continuing to be made, towards giving effect to the designation[4].

The Environment Court decision in Beda Family Trust v Transit NZ A139/04 makes the following statement on the exercise of that discretion in considering a longer lapse period:

The discretion has to be exercised in a principled manner, after considering all of the circumstances of the particular case. There may be circumstances where a longer period than the statutory 5 years is required to secure the route for a major roading project. Such circumstances need to be balanced against the prejudicial effects to directly affected property owners who are required to endure the blighting effects on their properties for an indeterminate period. The exercise of the discretion needs to be underlain by fairness.

Environment Court decisions on disputed designation lapse periods are noted in the table for reference purposes.

Case	Requested lapse period	Court decision lapse period
Beda Family Trust v Transit NZ	20 years	10 years
Meridian 37 Ltd v Waipa District Council	15 years	5 years
Hernon v Vector Gas Ltd	10 years	5 years
Queenstown Airport Corporation Ltd	10 years	5 years

[4] Sections 184(1)(b) and (2) Resource Management Act 1991.

The RMA does not provide any guidance as to when it is appropriate to extend a lapse period, however, there is clear discretion to extend lapse periods beyond the default period when confirming a designation. The appropriateness of extending the lapse period beyond the 5 years set as the default must depend on the specific circumstances. The relevant factors need to be balanced.

It would be helpful for the Requiring Authority to provide additional information either in evidence or at the hearing for the justification of extended lapse dates

I request that the Requiring Authority provides the following information either in evidence or at the hearing:

- additional information for the justification of 15 year extended lapse dates for the NoRs.

I consider that with the condition change I propose above, the condition changes Ms Foy proposes in her Social Impact evaluation, the provision of information relating to property requested by council specialists being provided to their satisfaction, and the provision of information from the Requiring Authority satisfactorily justifying the 15 year proposed lapse periods, the potential adverse effects on property and land use uncertainty can be avoided, remedied, or mitigated.

Management Plans

It is important that the NoR conditions set out a robust resource management process for the preparation of management plans. Council considers that use the use of management plan conditions needs to be certain and enforceable. In that regard management plan conditions should have a clear objective as to what they are to achieve as well as specific measures to avoid or mitigate potentially adverse effects. Management plans should also avoid delegation of decision-making requirements to a Council officer.

In my view, the following matters need to be considered in the preparation of management plans conditions:

1. Management plan purpose – clear and specific purpose and outcome;
2. Adoption of Best Practicable Option where appropriate especially for construction related management plan (noise and vibration, construction traffic, construction management);
3. Inform the duration, frequency and timing of works to manage disruption on affected receivers;
4. Engagement with affected receivers;
5. Specific details relating to avoiding, remedying or mitigating adverse various effects on the environment and neighbouring properties; (add bit re community?)
6. Complaints procedure;
7. Details on the monitoring of effects (and how these would inform the management plan going forward); and
8. Details on the process to amend, update or review any management plans.

Generally, it is my view that SGA has adopted these principles in its preparation of the majority of recommended management plan conditions. In a number of circumstances council's specialists have recommended amendments to the management plans to address certain adverse effects and/or make the management plans more effective. This includes the introduction of additional management plans.

It is general practice for the Council to certify any management plans that form conditions of designations. In the case of these NoRs, a great deal of reliance is being placed on management plans as the principal method to avoid, remedy or mitigate adverse effects on the environment.

The proposed conditions include making certification requirements optional rather than compulsory for management plans which are included in Outline Plans (Condition 8 (b) Management Plans).

In my view, it is important that the council retains the ability to review any management plan for completeness and to make changes to the management plans without the need for formal review of the conditions. Accordingly, I recommend an amendment to Management Plan Condition 8(b) requiring that all management plans "shall" rather than "may" be certified by council. This means that any management plans included in Outline Plans as part of Condition 7 (Outline Plans) will need to be certified by council.

Recommended Condition Changes:

- Condition 8 Management Plans

5.1.16 Parks Planning Effects Evaluation

Requiring Authority AEE

Te Tupu Ngātahi Supporting Growth have not provided a separate Parks Planning effects evaluation document. The AEE states that ongoing discussions have been held with different parts of council as landowner/asset manager (AEE 10.5.4). The Requiring Authority's Arboricultural, Landscape and Visual, and Urban Design assessments include references to parks and/or open space. Urban Integration positive effects (AEE 11.1) include connecting people through improved connectivity between parks, open space zoned land and recreational facilities.

Council Specialist Review

Mr Andrew Miller from CoLab Planning has prepared a technical memo on behalf of council covering his assessment of the submitted documents, response to relevant submissions and recommendations: "S42A Report on the Takanini Level Crossing Notices of Requirement – Parks Planning", Andrew Miller, CoLab Planning, 7 March 2024.

Mr Miller identifies the key parks planning issues in the NoRs as:

Table 1 : Key Parks Planning Issues from "S42A Report on the Takanini Level Crossing Notices of Requirement – Parks Planning", Andrew Miller, CoLab Planning, 7 March 2024

Notice of Requirement	Key Parks Planning Issues
Takanini Level Crossings: Spartan Road, Manuia Road, Manuroa Road, Taka Street (NoR 1)	i. Impacts on 12A Manuroa Road – Takanini Scout Hall Reserve, 24R Taka Street - Takanini Reserve

	ii. Effects: Trees / open space amenity iii. Mitigation and Compensation Measures iv. Alignment with Greenway and Open Space Plans
Takanini Level Crossings: Walters Road (NoR 2)	i. Impacts 19R Walters Road – Walters Access Way, 40R Walters Road – unnamed park ii. Effects: Trees / open space amenity iii. Mitigation and Compensation Measures iv. Alignment Greenway and Open Space Plans

In summary:

- Mr Miller supports the proposal by SGA to designate land in Takanini for NoR 1 and NoR 2 from a parks planning perspective.
- Mr Miller supports the proposed management plans for managing adverse effects on the parks and open spaces, even though there are some uncertainties with mitigation. The changes he recommends would provide for consideration of mitigation prior to submission of any Outline Plan of Works application with relevant stakeholders.
- Mr Miller considers that NoR 1 would likely create additional open space opportunities within Takaanini, helping to addressing the shortfall identified in the Papakura Open Space Network Plan 2019, and in part assisting to mitigate the loss of facilities and space from Takaanini Reserve.

Submissions

Mr Miller has reviewed and responded to NoR 1 submissions relating to:

- Adverse effects on physical assets within 24R Taka Street / Takaanini Reserve
- Adverse effects on council reserves at 2R Challen Close, 8 Takanini Road, 103R Manuroa Road, 16R Reding Street, 2 Popes Road, 48R Rangi Road
- Adverse effects on elderly housing facility at 12 Challen Close
- Adverse effects on walkway at 20W Challen Close
- Adverse effects on stormwater drainage area at 354F Porchester Road, stormwater drainage pond open space at 35R Spartan Road, drainage reserve at 50R Rangi Road, drainage reserve at 8R Scotts Field
- Adverse effects on 30 Walters Road
- Adverse effects on 1-3 Walters Road
- Adverse effects on 12 Walters Road
- Adverse effects on 20A Walters Road and 230 Great South Road

Mr Miller has reviewed and responded to NoR 2 submissions relating to:

- Loss of vegetation such as in Arion Road.
- Adverse effects on council reserve at 40R Walters Road from loss of land
- Adverse effects on 30 Walters Road – insufficient options considered to avoid adverse effects on private land, but also public open spaces
- Adverse effects on 1-3 Walters Road – insufficient options considered to avoid adverse effects on private land, but also public open spaces.
- Adverse effects on 12 Walters Road – insufficient options considered to avoid adverse effects on private land, but also public open spaces.
- Adverse effects on 20A Walters Road and 230 Great South Road – insufficient options considered to avoid adverse effects on private land, but also public open spaces.

Overall, Mr Miller generally supports the conditions offered by SGA. He recommends various changes throughout his assessment relating to:

- ensure that there is ongoing access provided to parks
- specific consideration of the mitigation requirements for the loss of community facilities and open space within the project area of the NoRs
- ensure that the mitigation for facilities lost from Takaanini Reserve, being the skatepark, and potentially the basketball court, are implemented prior to the works commencing so that the community has access to the same or better facilities during construction.
- allow Auckland Council to continue basic operation of the parks leading up to construction.
- ensure that replacement planting aligns with area-specific urban forest aspirations.

Mr Miller notes that he is agreeable to changes in wording to align with other areas of expertise or to incorporate similar / further changes to conditions that would give effect to the same outcome.

Mr Miller also notes that he has reviewed council's social impact report by Rebecca Foy and agrees with the proposed revised SCEMP Condition 9. He notes that Ms Foy recommends that a Development Response Management Plan is introduced to the conditions, including a clause 6.18(a)(v) which provides for realisation of mitigation for impacts on parks and open spaces.

Recommended Condition Changes:

- Condition 6: Network Utility Operators (Section 176 Approval)
- Condition 12: Urban and Landscape Design Management Plan (ULDMP)
- Condition 14: Existing property access
- Condition 18: Construction Traffic Management Plan (CTMP)

Planning Review

I rely on the expert opinion of Mr Miller in making my planning assessment and recommendations. I support the condition changes he proposes.

Based on Mr Miller's assessment, I consider that subject to the above, and the proposed conditions as recommended to be amended, the potential adverse effects on parks planning can be avoided, remedied, or mitigated.

5.1.17 Historic Heritage and Archaeology Effects Evaluation

Requiring Authority AEE

Effects on historic heritage are addressed in section 11.10 of the AEE which refers to the requiring authority's technical report "Te Tupu Ngātahi Supporting Growth Takaanini Level Crossings Assessment of Archaeological and Heritage Effects" October 2023 Version 1.0 by Hayley Glover.

The AEE states that there is no reasonable cause to suspect that archaeological or heritage features will be impacted by the anticipated works.

The land has been extensively developed and modified with roads, the NIMT railway, housing and commercial and industrial buildings.

For both the construction and operational phases of the project, no measures to avoid, remedy or mitigate any effects are required as there is no reasonable cause to suspect archaeological or heritage features will be impacted by the project.

Ms Glover recommends that the existing statutory provisions in Chapters E26 Infrastructure and E11/12 Land Disturbance are sufficient to address any accidental discovery made in the execution of any works.

No specific archaeology and heritage conditions are proposed as no effects were identified that required impact management.

Council Specialist Review

Ms Myfanwy Eaves, Senior Specialist: Archaeology, Auckland Council has prepared a technical memo covering her assessment of the submitted documents, response to relevant submissions and recommendations. "Technical Memorandum Notices of Requirement for works NoR1 to NoR2: Archaeology", Myfanwy Eaves, Auckland Council, 20 February 2024

Ms Eaves considers the assessment and statements made by Ms Glover are accurate for these NOR; there are no archaeological issues in this project. The project does not affect any scheduled or listed built heritage places of historic heritage significance.

Ms Eaves notes that the proposed Condition Set for these NOR *does not include any condition* for Historic Heritage, either in the form of a management plan or some other tool. Ms Eaves concurs with this approach; there is no known risk therefore there is no requirement to manage the risk to the historic heritage resource as there will be no effects.

Ms Eaves supports the application provided adequate mitigation is offered and occurs for any adverse effects on the historic heritage resource *should they be encountered during the execution of works* and as stated in E26.6.1 Objectives and E26.6.5.1 Policies.

Submissions

No submissions were received in relation to archaeology or to historic heritage.

Planning Review

I rely on the expert opinion of Ms Eaves in making my planning assessment and recommendations.

I note there are no known archaeological sites or scheduled listed built heritage places of historic heritage within the proposed NoRs. I also note that existing statutory provisions in the AUP:OP are sufficient to address any accidental discovery made in the execution of any NoR works. I therefore consider that the potential adverse effects on historic heritage can be avoided, remedied, or mitigated.

5.1.18 Network Utilities and Development Engineering Effects Evaluation

Requiring Authority AEE

Effects on network utilities are addressed in section 11.11 of the AEE. The following network utilities are identified as being affected by the NoRs:

- KiwiRail Holdings Limited – North Island Main Trunk Railway Line (Designation 6302)
- Waka Kotahi New Zealand Transport Agency – State Highway 1 (Designation 6706)
- Transpower New Zealand Limited – National Grid transmission lines
- Vector Ltd – Medium voltage overhead lines
- Chorus Limited – Communication lines

To undertake work in accordance with a designation on land where there is an existing designation in place, the written consent of the requiring authority for the earlier designation is required under section 177(1)(a) of the RMA. This written approval has not been obtained at this stage but will be obtained at a later date during the detailed design stage of the Project.

Where works are required by others on land subject to a designation or notice of requirement sections 176 and 178 apply. A Network Utility Management Plan (NUMP) (Condition 24) will be prepared prior to the construction of the project. The NUMP will set out a framework for protecting, relocating and working in proximity to existing network utilities. The NUMP will be prepared in consultation with the relevant network utility operators. It will assist in setting a framework for further engagement, and for protecting existing infrastructure assets that are located near the project areas.

Council Specialist Review

Mr David Russell, Senior Development Engineer, Auckland Council has prepared a technical memo covering his assessment of the submitted documents, response to relevant submissions and recommendations. “Technical Expert Evidence – for s.42A report, Takanini crossings NoR” David Russell, Auckland Council, 6 March 2024. Mr Russell's report covers network utility matters and development engineering matters.

Mr Russell comments that he agrees with the assessments of effects that were provided as they impact on the project and the construction works required. Mr Russell is of the opinion that the proposed conditions do not cover the period prior to the start of works very well in relation to the need for coordination and collaboration with network utility operators.

Mr Russell considers that the support documents address the stormwater treatment requirements. The review of that facet of the projects has been carried out by others. In general he is happy that what is proposed complies with the AUP:OP, although there may be some questions around compliance with the Network Discharge Consent. The latter matters can be addressed as part of the outline plan of works review.

Mr Russell notes that the AEE provided addresses the engineering issues covered in the AUP:OP. The plans provided with the outline plan of works will provide the full technical detail that is not in the NoR applications. He considers it is not appropriate to have all the technical details now as construction standards are likely to change with time.

Submissions

Mr Russell summarises submission matters as;

1 Need to maintain access to the properties. This is particularly important for the commercial area as the truck size needs space to turn. Consideration to this will need to be given during the preparation of the construction management plan works so that the neighbouring properties are accessible.

2 Pedestrian and cycle access through the work sites. There are more pedestrians and cyclists using the footpaths now, particularly in areas close to schools. This function needs to be retained during construction works.

3 The network utility operators need to be kept in the loop from now so that works they do will not conflict with the proposed works, and to minimise the rework needed as part of the NoR works.

Mr Russell's report addresses some submissions relating to property access during and after construction (excluding social effects items), construction effects, and network utility operators and pre-design input property access during and after construction.

Property access during and after construction (excluding social effects items)

Some submitters have raised issues associated with pedestrian and cyclist access through the construction sites, access to vehicle crossings for the large vehicles used, and loss of on street parking as it affects their operations. Others are considering the wider impact on the network.

Mr Russell considers that proposed Condition 14 (Existing property access) adequately recognises the need for property access and the requirement to agree with landowners to get the vehicle access requirements correct.

In terms of the information provided Mr Russell considers the AEE and traffic reports are light on details for the maintenance of pedestrian access through the construction sites. Reading condition 28 he considers construction traffic this is probably covered by point (vi). However, he believes pedestrian access should be reinforced for certainty.

Network Utility Operators

Mr Russell advises that submissions have been received from the following Network Utility operators:

- "Telecommunications Submitters" (NOR 1 Submission 8 and NoR 2 Submission 7). The Telecommunications submitters request the ability to be part of the pre design process to ensure that the correct new infrastructure is placed, and coordination "assistance" to ensure that new infrastructure is best placed between now and construction commencing.
- Watercare Services Limited (WSL) (NOR 1 Submission 41 and NoR 2 Submission 21). wish to be able to maintain access to the infrastructure at all times and be involved in the design from now to ensure future WSL assets do not need to be moved. They have proposed some condition changes.

Mr Russell is of the opinion that the proposed conditions do not cover the period prior to the start of works very well in relation to the need for coordination and collaboration with network utility operators.

Mr Russell is supportive of the additional condition requested in Watercare's submission and considers this would set up a process whereby all utility operators and the Requiring Authority communicate about what is happening in the project area. Mr Russell considers that this would help minimise any impacts on the network utility operators activities to upgrade and maintain their infrastructure and minimise the need to relocate services.

Mr Russell agrees with the issues raised in Watercare's submission and recommends that the new condition sought in the Watercare submission for a Network Utility Strategic Outcomes Plan (NUSOP) be included in the conditions for the NoRs. The alternative relief sought by Watercare, of amendment to Proposed Condition 26 (d) NUMP is also supported by Mr Russell.

Recommended Condition Changes:

- Condition 18: Construction Traffic Management Plan (CTMP)
- Condition 24: Network Utility Management Plan (NUMP)

Recommended New Condition:

- Network Utility Strategic Outcomes Plan (NUSOP)

Planning Review

I rely on the expert opinion of Mr Russell in making my planning assessment and recommendations.

Mr Russell recommends a condition amendment to maintain pedestrian access through project areas while construction is occurring. I support that condition.

As stated above, the Requiring Authority has proposed a condition which provides for the network utility operators to be able to undertake certain works without the need for seeking written approval from the requiring authority under section 176A of the RMA. However, the Telecommunications submitters are of the view that engagement and planning should be occurring at an earlier stage to better integrate the design and implementation of the corridor with their network operations.

Watercare Services Limited has provided the wording for the new "Network Utility Strategic Outcomes Plan" (NUSOP)" condition that it seeks be applied to the Takaanini Level Crossing NoRs and Mr Russell supports this new condition. The alternative relief sought by Watercare, of amendment to Proposed Condition 26 (d) NUMP is also supported by Mr Russell. I consider that relief would also address the concerns of the "Telecommunications Submitters".

I agree with Mr Russell's recommendations. I consider that subject to the above, and the proposed conditions as recommended to be amended, the potential adverse effects on network utility operators, and in relation to the maintenance of pedestrian access, can be avoided, remedied, or mitigated.

5.1.19 Māori culture, values, and aspirations

Requiring Authority AEE

Supporting Growth have advised that the project does not affect any identified properties or land currently being negotiated under Treaty settlements, land returned under a Treaty settlement, marae, Māori freehold lands, Tupuna Maunga Affected Areas, Tangata Whenua Management Areas, Sites of Significance to Mana Whenua identified in the Auckland Unitary Plan (operative in part) and/or Auckland Council GIS. Supporting Growth also advise that the sites are not within the coastal environment under the marine and coastal Area (Takutai Moana) Act 2011, and there are therefore no customary marine title areas/groups or protected customary rights that need to be considered in relation to the project.

Supporting Growth have advised that they engaged with mana whenua throughout the development of this project. This included a monthly kaitiaki forum over the past five years dating back to the inception of Te Tupu Ngātahi, and at a project-specific level since the inception of the detailed business case process in 2021. Nine iwi have a direct interest in the project area.

Supporting Growth advised that mana whenua were invited to prepare Cultural Values Assessments or Cultural Impact Assessments in November 2022. In response, the Supporting Growth team received CVAs in the form of report/documentation from Ngaati Te Ata Waiohua and Ngaati Whanaunga, and an in person oral CVA from Te Ākitai Waiohua. Ngaati Te Ata Waiohua did not support their CVA being appended or provided to council to avoid information contained being misinterpreted or mistreated.

The AEE (in Section 11.12) notes that only Mana Whenua can speak to the impact that a project may have on their cultural values, heritage and aspirations. The assessment undertaken in the AEE draws on engagement that has been undertaken with Mana Whenua and inputs provided by Mana Whenua representatives during optioneering, concept design, and assessment of the NoRs.

The Takaanini Level Crossings project does not directly affect any identified properties or land currently being negotiated under Treaty settlements, land returned under a Treaty settlement, marae, Māori freehold lands, Tupuna Maunga Affected Areas, Tangata Whenua Management Areas, Sites of Significance under the AUP:OP and/or Auckland Council GIS. The sites area also not within the coastal environment under the Marine and Coastal Area (Takutai Moana) Act 2011 and there are therefore no customary marine title areas /groups / or protected customary rights that need to be considered in relation to the project.

The AEE states that Mana Whenua confirmed they were generally supportive of the proposed long-term transport network but highlighted a number of considerations to the project team, including:

- The importance of Papakura Stream
- Avoidance of wetlands
- Overland flow path diversions
- Safety concerns with Manuroa Road
- Visual effects – concerns on the visual effects of new bridge structures and how this is reflected in assessments / documentation

The Requiring Authority advises that these considerations were considered as part of the optioneering process, subsequent assessment of effects, technical assessments, and the proposed conditions.

To avoid, remedy or mitigate these potential adverse effects, the Requiring Authority proposes a number of conditions for both NoR 1 and NoR 2. These conditions include:

- Mana Whenua engagement involvement in the Stakeholder Communication and Engagement Plan (SCEMP) (Condition 9),
- inviting Mana Whenua to prepare a Cultural Advisory Report (Condition 10),
- a Mana Whenua Kaitiaki Forum (Condition 11),
- Mana Whenua participation in the development of the Urban and Landscape Design Management Plan (ULDMP) (Condition 12),
- preparation of a Cultural Monitoring Plan (Condition 17) prior to the start of construction or enabling works.

Council Specialist Review

Council has not undertaken a specialist review. I note the AEE comments that only mana whenua can speak to the effect that a project may have on their cultural values, heritage, and aspirations.

Submissions

No submissions have been received from Mana Whenua groups or from Heritage NZ Pouhere Taonga (HNZPT) in relation to the NoRs.

Planning Review

NoR 1 and NoR 2 do not fall within any 'Sites and Places of significance to Mana Whenua" as identified on the AUP:OP's planning maps. There are no known archaeological sites within the NoR areas.

I note that the NoRs do not directly affect any identified properties or land currently being negotiated under Treaty settlements, land returned under a Treaty settlement, marae, Māori freehold lands, Tupuna Maunga Affected Areas, or Tangata Whenua Management Areas.

I note that Supporting Growth (Te Tupu Ngātahi) maintain a forum with Mana Whenua about their future networks.

I consider that the references to Mana Whenua in the proposed conditions are appropriate and will ensure that there is ongoing engagement, and collaboration, with Mana Whenua.

5.1.20 Effects Evaluation Conclusion

As set out throughout section 5 of my report, I generally rely on the expert opinions of council's experts.

Positive effects relating to the NoRs have been identified through council's experts' evaluations of the NoRs particularly in respect of:

- Traffic and Transport effects
- Landscape and Visual effects
- Social Impact effects
- Urban Design effects
- Parks Planning effects.

Many of the experts evaluating these NoRs for council have concluded that the potential adverse effects of the Takaanini Level Crossing NoRs can be appropriately avoided, remedied or mitigated, often with the imposition of the proposed or amended conditions:

- Experts in Arboriculture and Archaeology and Built Heritage support the proposed conditions as notified.
- Experts suggest condition amendments relating to:
    - Landscape and Visual effects
    - Terrestrial Ecology effects
    - Parks Planning effects
    - Network Utilities and Development Engineering effects.

Other experts evaluating these NoRs for council have suggested condition amendments too, but have also asked the Requiring Authority to provide more information and clarification in evidence or at the hearing. In particular, more information has been sought in relation to potential adverse effects relating to:

- Traffic and Transport
- Noise and Vibration
- Stormwater and Flood Hazard
- Geotechnical
- Social Impact
- Urban Design
- Property
- Planning.

I consider that the recommended amendments and additions to the Proposed Conditions (**Attachment 6** to this report) provide a more appropriate framework to avoid, remedy or mitigate the effects of the Takaanini Level Crossing NoRs than those proposed by the Requiring Authority.

My provisional conclusion is that subject to the recommended amendments to the Proposed Conditions (**Attachment 6**) and subject to the issues the Requiring Authority has been asked to comment on being satisfactorily resolved, the adverse effects on the environment of allowing the Takaanini Level Crossing NoRs can be appropriately avoided, remedied or mitigated.

5.2 National Policy Statements

Section 171(1)(a)(ii) requires the council to, subject to Part 2, consider the effects on the environment of allowing the notice of requirement, having particular regard to any relevant provisions of a national policy statement.

The AEE assesses the Takaanini Level Crossings project against the National Policy Statements on Urban Development, Freshwater Management, Indigenous Biodiversity, and Electricity Transmission

5.2.1 National Policy Statement on Urban Development 2020 (NPS-UD)

The National Policy Statement on Urban Development (NPS-UD) has the primary objective of ensuring that New Zealand has well-functioning urban environments that enable all people and communities to provide for their social, economic, and cultural wellbeing, and for their health and safety, now and into the future (Objective 1).

Proposed Plan Change 78 to the AUP:OP is implementing the National Policy Statement on Urban Development and the RMA requirements for Medium Density Residential Standards, by providing more intensive zonings and building standards across the urban residential areas of Auckland.

PC78 is not yet operative; the timeframe for its hearing has been extended.

The requiring authority has assessed the Project against the relevant provisions of the NPS-UD in Section 9.7 of the AEE. The AEE states that Takanini is expected to experience further intensification, particularly residential growth, as development is undertaken over time in response to the policy direction of the NPS-UD.

Council's social impact and urban design specialists both state in their assessments that they are not convinced that there will be significant change and intensification in the environment by the time that the proposed bridges are constructed. Council's landscape and visual specialist also signalled the likely future urban environment as a matter to be addressed further at the hearing. Council's traffic and transport specialist notes that that there will be some uncertainty in terms of the future traffic environment as this will be partly dependent on future residential and industrial development in the area and within the wider region and the implementation of transport projects.

Ms Foy in her Social Impact assessment review (section 3.2) notes that the Requiring Authority's SIA looks at the existing situation but acknowledges that there is significant uncertainty about the future built environment. The operational effects are assessed for an environment that reflects a changed higher intensity environment by the Assessment of Environmental Effects ('AEE') and the Assessment of Transport Effects ('ATE'). She comments that those reports do not acknowledge the potential for environments to be a mix of old and new, and therefore do not consider the likely effects on people living in properties during the transitional phase of moving towards a higher intensity environment, though the SIA does acknowledge that existing properties will experience negative effects. Ms Foy considers that this means that within the wider application some of the effects are compared to new buildings which would be designed to minimise some of the adverse effects, rather than looking at the effects on the older style homes that are present. Given the length of the designation, Ms Foy considers it likely that some property owners and developers will wait to see what is delivered before commencing property development, and in some cases, people may not be able, or want, to develop their properties. For this reason, in Ms Foy's opinion there is a high level of uncertainty about whether there will be significant change and intensification in the environment by the time that the bridges are constructed.

Council's Urban Design specialist, Mr Evans, considers too much weight is given to the likely future built environment and a more cautious approach is warranted when considering the potential physical effects of the proposed crossings. This is because he considers the PC78 process still to be at a relatively early stage, and because of his practical experience of development in existing higher density zones. His experience of redevelopment in the existing THAB zone suggests terraced housing is more usually built which retains a domestic architectural scale similar to the existing building stock. Irrespective of the directions and 'enabling' role of zone changes, commercial and other planning factors (such as effects to the existing environment of massing and shading) often lead to development outcomes less dense than allowed for within the zone.

Given this experience, Mr Evans considers the likely future built environment in the NoR 1 area will likely shift towards two and three storey buildings, with apartment buildings (6 storeys) limited to 'special' sites. In the Walters Road Project area, Mr Evans comments that the MDRS suggests a Residential-- Mixed Housing Urban zoning.

Mr Evans therefore considers that having regard to the existing and possible future built environment, the outline proposal does not align well with achieving a sympathetic scale of development to the existing and likely future environment.

I agree with Ms Foy's Social Impact conclusion and Mr Evans' Urban Design conclusion that despite PC78 there may not be significant residential change and intensification in the environment by the time that the bridges are constructed.

I consider though that the NoRs will support and enable the growth that does occur and that the NOR conditions, as recommended to be amended, will therefore give effect to the NPS-UD.

5.2.2 National Policy Statement on Freshwater 2020 (NPS-FM)

The NOR process is required to have particular regard to a NPS under RMA s171.

The coalition government has announced an intention to revise the NPS-FM 2020. This process is expected to take 18 to 24 months (i.e. to around the end of 2025). The s171 obligation relates to 'a national policy statement' only and does not include a proposed NPS. If the government releases a draft NPS for feedback in the next few months, there is no legislative requirement to have regard to it.

The RMA s80A requirement to develop a Freshwater Planning Instrument to implement the NPS-FM has been amended to change the notification deadline from 31 December 2024 to 31 December 2027. The council is currently reviewing its NPS-FM programme in response to these changes. It has not yet been determined when a plan change will be notified, however staff anticipate that it will be after the revised NPS-FM is finalised.

The NPS - FM endeavours to implement Te Mana o te Wai by prioritising first the health and well-being of water bodies and freshwater ecosystems followed by the health needs of people and then the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

It is noted that these provisions will apply at the regional consent stage for consents sought under section 13, 14 and 15 of the RMA.

The relevant provisions of the NPS-FM are assessed in section 12 of the AEE. In summary, the requiring authority finds that the Project will give effect to the NPS-FW because:

- The project has avoided direct physical effects on freshwater bodies including streams and wetlands.
- The designation ensures that there is sufficient space for stormwater management devices to meet future regional consenting requirements

I concur with this assessment under the NPS-FW. I agree that the NoRs give effect to the NPS-FW, subject to the conditions.

5.2.3 National Policy Statement for Indigenous Biodiversity 2023 (NPS-IB)

The National Policy Statement for Indigenous Biodiversity (NPS-IB) is an essential part of our response to biodiversity decline in Aotearoa. It provides direction to councils to protect, maintain and restore indigenous biodiversity requiring at least no further reduction nationally.

The relevant provisions of the NPS-IB are assessed in section 12 of the AEE. In summary, the requiring authority finds that the Project will give effect to the NPS-IB because:

- The project has avoided any impacts on any identified SEAs, and no significant effects on terrestrial ecology have been identified.
- The effects of the removal of existing vegetation and trees are proposed to be mitigated by a TMP and UDLMP.

Council's terrestrial ecology specialist, Mr Chapman, advises that the NoRs generally evaluate and avoid potential adverse ecological effects appropriately through the concept design presented in the general arrangement drawings. However, as detailed design will not occur until the time of regional consenting which may be a number of years away, it is possible that indigenous biodiversity (e.g., native bats, birds, and/or lizards) may be adversely affected by the project.

Mr Chapman considers that risk should be addressed by including an advice note in the designation conditions to highlight that effects on indigenous terrestrial biodiversity are to be reassessed as part of the regional consenting process.

I note that there are no SEA's which are within the proposed designation boundaries. I concur with Mr Chapman's assessment and agree that with the advice note he suggests,, the NoRs will give effect to the NPS-IB.

National Policy Statement on Electricity Transmission (NPS-ET)

Approximately 230m² of land (approximately 28 metres in length) at the eastern end of the NoR 1 Taka Street project area falls within the National Grid Corridor Overlay.

The relevant provisions of the NPS-ET are assessed in section 12 of the AEE. In summary, the requiring authority finds that the project will give effect to the NPS-ET because:

- The area within the overlay is required to provide for the active mode facilities and tie-in to the intersection of Taka Street, Takanini School Road and Kauri Heart Avenue proposed as part of the project.
- These activities apply to a very small area of both the proposed designation and overlay, and do not fall within the definition of activities sensitive to the national grid. No impacts on national grid infrastructure are anticipated and no pylons or support structures are located within this location.

I concur with the Requiring Authority's assessment that the project will give effect to the NPS-ET.

5.3 Regional Policy Statement (Chapter B of the AUP:OP) (RPS)

The RPS sets the strategic direction for managing the use and development of natural and physical resources throughout Auckland. The following sections of the RPS are considered relevant to NoR 1:

- Chapter B2 Tāhuhu whakaruruhau-ā-taone – Urban Growth and Form
- Chapter B3 Ngā pūnaha hanganga, kawekawe me ngā pūngao – Infrastructure, transport and energy
- Chapter B4 Te tiaki taonga tuku iho – Natural heritage
- Chapter B5 Ngā rawa tuku iho me te āhua – Historic heritage and special character
- Chapter B6 Mana Whenua
- Chapter B7 Toitū te whenua, toitū te taiao – Natural resources
- Chapter B10 Ngā tūpono ki te taiao – Environmental risk.

The Requiring Authority has assessed the Project against the relevant provisions of the RPS in AEE Section 12 Table 12-2. The table below sets out the RPS Chapters in the AUP:OP and the theme set out in Table 12-1 of the AEE in which the RPS is addressed.

AUP:OP RPS Chapter and Table 12-1 themes (from Table 12-1 of the AEE)

Chapter	**Theme identified in table 12-1 of AEE**
B2 Tāhuhu whakaruruhau ā-taone–- Urban growth and form	Urban growth and development capacity
	Natural hazards
	Urban form and quality design
B3 Ngā pūnaha hanganga, kawekawe me ngā pūngao–- Infrastructure, transport and energy	Urban growth and development capacity
	Enabling infrastructure and transport
	Enabling infrastructure while managing its adverse effects
	Urban growth, urban form, and amenity values
	Natural hazards
B4 Te tiaki taonga tuku iho–- Natural heritage	Enabling infrastructure while managing its adverse effects
	Manawhenua
	Ecology and natural heritage

Chapter	Theme identified in table 12-1 of AEE
B6 Mana Whenua	Manawhenua
B7 Toitū te whenua, toitū te taiao–- Natural resources	Ecology and natural heritage
B10 Ngā tūpono ki te taiao–- Environmental risk	Natural hazards

I generally agree with the requiring authority's assessment under the RPS provisions subject to the changes recommended to conditions and the content and implementation of the management plans and processes proposed as part of the NoRs.

5.4 Auckland Unitary Plan

The AUP:OP provisions are addressed in Section 12 Tables 12-1 and 12-2 of the Requiring Authority's AEE.

5.4.1 Chapter D Overlays

NoR 1 and NoR 2 are subject to a range of overlays in the AUP:OP including the following:

- D1: High Use Aquifer Management Areas Overlay [rp]
- D3: High-use Stream Management Areas Overlay [rp]
- D26: National Grid Corridor Overlay[rp/dp]

The provisions of Chapters D1 and D3 are regional provisions. Therefore, an assessment of these will be required at the regional resource consent stage.

The provisions of Chapter D26 include both regional and district provisions. AUP: OP Objective D26.2. Objective (1) is "The efficient development, operation, maintenance and upgrading of the National Grid is not compromised by subdivision, use and development." The effects of the NoRs on the National Grid are addressed in the AEE's assessment of the National Policy Statement on Electricity Transmission (NPS-ET). No impacts on national grid infrastructure are anticipated and no pylons or support structures are located within this location.

I concur with the assessment of the requiring authority in the AEE in relation to the objectives and policies of these overlays and have no further comments to add.

5.4.2 Chapter E Auckland-wide

NoR 1 and NoR 2 are subject to a range of Auckland-wide provisions in the AUP:OP and the Requiring Authority has assessed the following:

- E9 Stormwater quality–- High contaminant generating car parks and high use roads

- E12: Land disturbance – District
- E15: Vegetation management and biodiversity
- E17: Trees in Roads
- E25: Noise and vibration
- E26: Infrastructure
- E27: Transport
- E36: Natural hazards and flooding.

I generally agree with the requiring authority's assessment in section 12 and Table 12-1 of the AEE in relation to the provisions above subject to the changes recommended to conditions and the content and implementation of the management plans and processes proposed as part of the NoRs.

I note that Table 12 -2 did not consider the following Auckland-Wide Chapters:

- E8 Stormwater–- Discharge and diversion
    - While I recognise that the effects of stormwater discharges (quantity) are the subject of regional consents, it would be helpful if these had also been considered in Table 12.2.
- E24 Lighting
    - I also note that while operational lighting effects have been recognised there is no assessment in terms of relevant objectives and policies.

5.4.3 Chapter H Zones

NoR 1 and NoR 2 cross the NIMT, which is zoned Strategic Transport Corridor Zone.

The zones and precincts within receiving environments of the NoRs are set out in the AEE.

The relevant zones are considered to be:

- H4: Residential – Mixed Housing Suburban Zone
- H5: Residential – Mixed Housing Urban Zone
- H7: Open Space Zones
- H10: Business – Town Centre Zone
- H11: Business – Local Centre Zone
- H12: Business – Neighbourhood Centre Zone
- H16: Business – Heavy Industry Zone
- H17: Business – Light Industry Zone.

There is little discussion of the AUP:OP zone objectives and policies in the AEE. I generally agree with the requiring authority's assessment under the RPS provisions subject to the changes recommended to conditions and the content and implementation of the management plans and processes proposed as part of the NoRs.

5.5 Alternative sites, routes or methods – section 171(1)(b)

The Requiring Authority does not have an interest in all the land and the effects of the works are likely to be significant. Therefore, an assessment of alternative sites, routes or methods is required. The requiring authority's assessment of alternatives is set out in "Te Tupu Ngātahi Supporting Growth Takaanini Level Crossings Appendix A–- Assessment of Alternatives" October 2023 Version 1.0 by Liam Winter, Adriene Grafia and Daly Williams. Sections 5.1 of Appendix A to the AEE discuss the nature of the alternatives assessment and design refinements that have taken place in relation to NoR 1 and NoR 2. The Requiring Authority has determined through that assessment, that the NoR locations shown as lodged, are the locations which best fit its objectives.

Section 5.2 of the Requiring Authority's AEE identifies the aspects of alternatives that were considered for the TLC project:

- The **number** of east-west crossings needed in the TLC network, and which transport modes should be accommodated;
- The **locations** for east-west crossings in the TLC network;
- The **physical form of grade separation** for the TLC network – whether grade separation of road and rail is to be achieved by raising or lowering roads, or raising or lowering rail; and
- The **alignment** and **physical extent** of each east-west crossing in the TLC network.

The Requiring Authority's AEE states that designations were chosen as the preferred method in the context of the project and were considered to be the most logical and effective method to protect a corridor in an evolving environment because a designation:

- Provides certainty to all parties including the community and affected landowners (e.g., timing, location, process, and parameters for works to be undertaken and ability to plan for their own aspirations accordingly);
- Is a well-recognised and understood tool for route protection which also enables land acquisition processes through the link to the Public Works Act 1981 (PWA);
- Maximises flexibility for future implementation;
- Negates the need for additional land use consents to implement works authorised under the district plan (s9(3) of the RMA); and
- Will continually provide for future operation and maintenance requirements.

Section 5.4 of the AEE states that the sites, routes, and methods chosen will achieve the overarching purpose of the TLC which is to:

- Identify and enable the east-west connections across the NIMT required in Takaanini to address issues such as congestion, severance, and safety issues relating to the existing level crossings and the operation of barrier arms to allow for rail operations; and
- Support the anticipated growth in Takaanini over the next 30 years.

The AEE states that certainty will be provided to transport authorities, partners, infrastructure providers, the community and investors/developers of the location and form of the east-west connections and enable phased delivery of the TLC as funding is made available.

Section 5.4 of the AEE concludes, *"The preferred network provided for by the NoRs has been based on a comprehensive and robust optioneering process considering specialist assessment and feedback from Manawhenua, stakeholders and landowners and the community. As such it is concluded that adequate consideration has been given to alternative sites, routes, and methods for undertaking the work, satisfying the requirements of section 171(1)(b) of the RMA."*

Based on guidance from caselaw I understand that the issue is whether the Requiring Authority has adequately considered alternatives, and not whether the 'best' option has been chosen, or that all possible alternatives have been considered. Therefore, the option chosen by the Requiring Authority is the one that it considers meets the objectives of the Requiring Authority and the Project. However, the Requiring Authority does need to ensure that it has considered all reasonable options and has not 'acted arbitrarily or given cursory consideration to the alternatives'[5].

Council's s92 request included a request for confirmation of whether the contents of any of the Certificates of Title for the sites subject to NoRs would impede the imposition of the NoRs on them. The Requiring Authority in its s92 response stated that:

> *Not all Certificates of Title for sites subject to the NoRs have been checked as this is not a requirement of s168 (1) or Form 18. However, site constraints have been considered to the extent necessary as part of the consideration of alternatives (as documented in the Assessment of Alternatives report) and to inform the designation boundaries. Effects on underlying property title matters are not matters that need to be assessed in terms of s171 and can be managed as necessary and appropriate via the Public Works Act regime which provides the relevant statutory scheme with respect to directly affected party title interests.*
>
> *(b) whether adequate consideration has been given to alternative sites, routes, or methods of undertaking the work if—*
>
> *(i) the requiring authority does not have an interest in the land sufficient for undertaking the work; or*
>
> *(ii) it is likely that the work will have a significant adverse effect on the environment; and*

Submissions

Submissions relating to assessment of alternatives are addressed in a number of council specialists' evaluations, including Traffic and Transport, Geotechnical, Social Impact, Landscape and Visual, and Urban Design.

Planning Review

I agree that safe east-west connections are required between both sides of the NIMT in Takanini. I also agree that designations are an appropriate method to protect routes for east-west corridors.

Several council experts have queried proposed sites, routes and physical methods for the proposed crossings, and have made requests for additional information from the Requiring Authority.

[5] Waimairi District Council v Christchurch City Council C30/1982

Mr Evans, in his Urban Design assessment considers that removing the option of underpass connection is premature and that it should remain an option for further investigation noting that Waka Kotahi's EAST assessment tool concluded road under rail (as a broad option) was 'Not preferred but not yet discounted – no fatal flaw identified but not preferred given greater cost and construction disruption anticipated compared with a bridge.' (Table 6.6. AEE – Assessment of Alternatives). Mr Evans further notes that the subsequent Multi Criteria Assessment of the option only considered the Walters Road crossing and did not undertake a similar exercise for Taka Street. Mr Evans has sought confirmation from the Requiring Authority that the use of underpass design solutions for active mode crossings remain an option as suggested by condition 12(g)(iii)g - Urban and Landscape Design Management Plan (ULDMP).

Some of the experts' queries relate to specific project areas or specific sites:

NoR 1 Spartan Road and Manuia Road Project Areas

Mr Peake in his Traffic and Transportation assessment states that at Spartan Road and Manuroa Road, alternatives for the active mode bridges, such as an underpass have not been considered. Mr Peake has therefore sought an assessment of alternative measures for the active mode connections at Spartan Road and Manuroa Road, such as a pedestrian/cycle underpass, including demonstrating the land that is reasonably necessary for the project. This brings the type of connection and extent of NoR boundary into question at Spartan Road and Manuroa Road.

NoR 1 Manuia Road Project Area

Mr Peake in his Traffic and Transportation assessment has requested further assessment to support the closure of Manuroa Road, particularly in regard to the network resilience, taking into account the availability of rail crossings between Spartan Road and Taka Street upon completion of the project. He has also requested further analysis of the operation of the proposed Manuia Road / Great South Road traffic signals in combination with the operation of the Takanini Interchange to demonstrate that the network would operate efficiently and safely, together with a more robust assessment of the delays associated with the operation of the Takanini interchange. This potentially brings the NoR 1 Manuia Road crossing option location into question.

Mr Shorten in his Geotechnical assessment advises that the Manuia Road alignment is inferred to be clear (to the west) of the Ardmore Peat body and the ground conditions are therefore assumed to be more favourable than those at Walters Road. He has therefore requested the Requiring Authority to confirm whether the overall score with respect to the Natural Hazards criterion of the MCA for the Manuia Road alignment is still more favourable for the bridge option than for the underpass option. This brings the type of connection at Manuia Road into question.

NoR 1 Taka Street Project Area and NoR 2 Walters Road Project Area

In relation to shortcomings in the assessment of alternatives, (overbridge vs underpass), Mr Pryor comments in his Landscape and Visual Assessment that he understands from the Assessment of Alternatives that the key constraints identified in the assessments for the Walters Road underpass option relating to ground conditions, construction complexity, lack of resilience, and urban design and safety concerns for the community were also considered relevant at the Taka Street and Manuia Road project areas. Accordingly, bridges were recommended as the preferred physical form of grade separation in those locations. Mr Pryor considers that this is more of a planning and engineering matter and he defers to those specialists.

I rely on Mr Shorten's advice that with respect to the Natural Hazards criterion of the MCA, the SGA assessment is sufficient for the purposes of the NoR for Walters Road and Taka Street, which have similar ground conditions. I therefore agree that geotechnical constraints at these locations are better for bridges than underpasses.

I note Mr Evans' Urban Design assessment and his opinion that massing effects of the bridge structures at Taka Street and Walters Road will likely result in adverse amenity effects, and not integrate suitably with the surrounding development. Mr Evans considers, given the outline plan status, removing the option of underpass connection is premature and that it should remain an option for further investigation at Taka Street and Walters Road. I note that Mr Evans has requested more information from the Requiring Authority in this regard, as he considers it is not clear at this time that the potential adverse operational effects in particular can be avoided, remedied, or mitigated.

The provision of the requested additional information and clarification requested from the Requiring Authority by council's experts, and then council's experts' confirmation that they are satisfied that their concerns have been appropriately addressed, will assist me to confirm my planner's view that the Requiring Authority has given adequate consideration to alternative sites, routes, or methods of undertaking the work.

5.6 Necessity for work and designation – section 171(1)(c)

The Requiring Authority has set out its specific project objective for NoR 1 and NoR 2 in the individual Form 18s for each of NoR 1 and NoR 2 and in section 3.2 of the AEE.

The project objective is the same for both NoR 1 and NoR 2 (set out in the NoR 1 Form 18 and the NoR 2 Form 18).

Section 6 of the Requiring Authority's AEE reiterates the project objective:

- Provide east-west transport improvements crossing the NIMT line in Takanini that:
    - Enables safe movements across the NIMT line;
    - Supports the east-west movement of all users across the NIMT and its line capacity;
    - Supports growth and enhanced access to economic and social opportunities;
    - Improves the resilience, efficiency and reliability of the network; and
    - Supports mode shift by improving active mode facilities and travel choice.

The AEE states that the work is reasonably necessary to achieve the project because:

- The existing east-west connections across the NIMT at Spartan Road, Manuroa Road, Taka Street and Walters Road experience congestion, severance, and safety issues as a result of the public road level crossings and the operation of barrier arms to allow for rail operations. These existing deficiencies will be exacerbated by the anticipated increase in both train movements along the NIMT, and demand for east-west travel across the NIMT resulting from growth. Accordingly, the current network with level crossings cannot not achieve the Project objective.

- The proposed work responds to and addresses these issues. The grade separation of the east-west connections across the NIMT removes the existing conflict points between rail (north-south movements) and all other users (east-west movements). Rail movements are free to move north-south improving the NIMT line capacity and providing for its wider social and economic function (freight and passenger services). For east-west movements, the NIMT no longer becomes a barrier/hinderance to movement enabling users to move within the area more efficiently and safely. The network benefits are further discussed in the Transport and Social effects chapters of the AEE (refer to AEE Sections 11.1, 11.2 and 11.8) and in the Assessment of Transport Effects Report and Social Impact Assessment (SIA) in Volume 4.

The AEE states that designation is reasonably necessary to achieve this objective because:

- As evaluated in Section 5.3 of the AEE, a designation was identified as the most appropriate method under s171(1)(b) to secure route protection for the Project. Alternative mechanisms do not provide for route protection given that AT does not own the land required to implement the work; nor do they provide for the requisite design flexibility. Therefore, the use of the designation mechanism is reasonably necessary to achieve the Project objective.
- The proposed extent of designation provides for the ongoing operation and maintenance of the proposed infrastructure as well as its construction. As such, the extent of designation includes areas required for the construction-process such as laydown areas and construction yards. It also provides areas that may be utilised to implement recommended mitigation.
- The designation extent is reflective of the needs of the Project and has taken into account inputs from technical specialists and feedback from AT, Waka Kotahi, Manawhenua, public engagement and landowners / stakeholders.
- The method of designation is reasonably necessary to achieve the objectives because it enables the identification and protection of the land required for the Project for an extended duration.

Mr Peake's Traffic and Transport evaluation, Mr Shorten's geotechnical evaluation and Mr Evans' Urban Design evaluation include requests for the Requiring Authority to address effects on specific properties, and to address the spatial extents of the designations.

My preliminary opinion is that overall the Takaanini Level Crossing NoRs are reasonably necessary to achieve the objectives of the Requiring Authority. This view is formed without the benefit of the provision of the additional information and clarification which is being requested from the Requiring Authority by council's experts, and without the benefit of council's experts' confirmation that they are then satisfied that their concerns have been appropriately addressed.

5.7 Any other matter – section 171(1)(d)

Section 171(1)(d) requires the council to have particular regard to any other matter the territorial authority considers reasonably necessary in order to make a recommendation on the requirement. In this case the non-RMA documents are considered relevant.

The requiring authority states, in Section 12.2 of the AEE, that it considers that there are other matters under s171(1)(d) that are reasonably necessary to make a recommendation on the NoRs. The requiring authority has provided an assessment against a range of other legislation, central government and local government plans, strategies and policies in Table 12-3 of the AEE. I generally concur with the assessments and conclusions of the AEE on any other matter and the range of other documents listed.

Tamaki-Whenua Taurikura Auckland Future Development Strategy 2023-2053

Council's Tamaki-Whenua Taurikura Auckland Future Development Strategy 2023-2053 (FDS) replaces council's Future Urban Land Supply Strategy (FULSS). The FDS identifies a reduction to the amount of land previously proposed to be zoned for urbanisation in Takanini east of Porchester Road, and identifies the remainder of the area as a "red flag" area, as shown in Figure 24 from the strategy below:

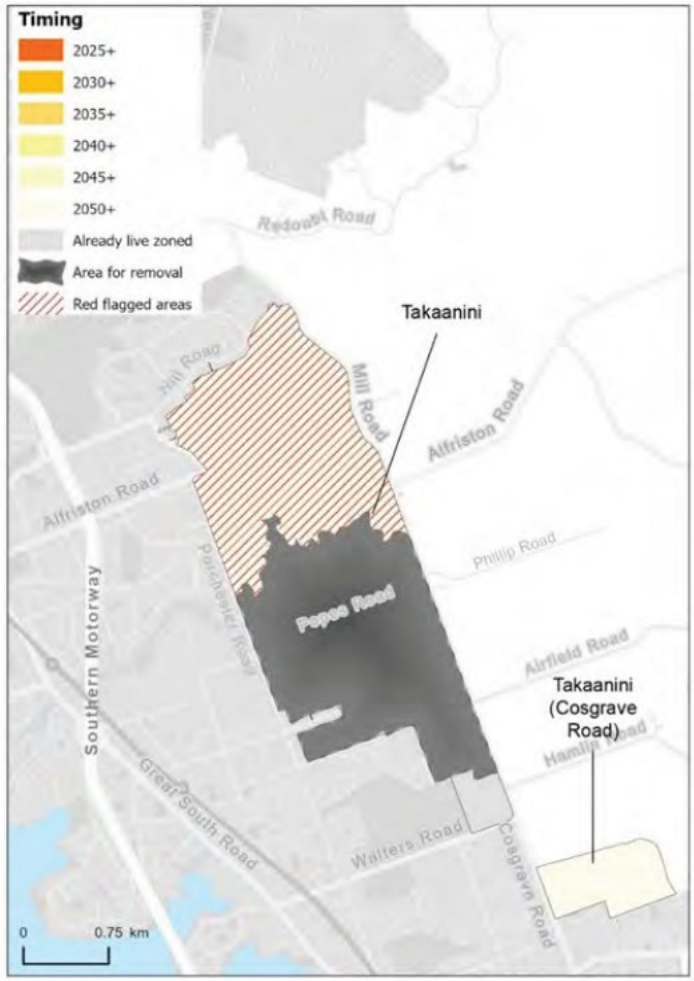


Figure 24: Takaanini

Figure 24 from Auckland Council Future Development Strategy 2023

I note that plan changes to implement the changes in status of areas the FDS identifies for removal or red-flagging, remain to be carried out and will be subject to the RMA processes before becoming operative changes to the AUP:OP.

Mr Peake in his Traffic and Transport evaluation notes that the Requiring Authority's Assessment of Transport Effects pre-dates Auckland Council's decision on the FDS and does not take into account any changes that may flow from this decision. Mr Peake concludes however that the removal of the level crossings will improve safety for all road users and will improve the efficiency of movements east-west as there will no longer be delays associated with the level crossings. Therefore, even if the volume of future traffic flows were to be less than assessed in the Requiring Authority's Assessment of Transport Effects, he considers that key project objectives would still be applicable and achieved. He therefore considers that the FDS should not have a material bearing on the need for the NoRs in relation to traffic and transportation. He does however consider that the FDS may have implications for timing of the whole or parts of the project.

Now that the FDS has been finalised, and given Mr Peake's Traffic and Transport Evaluation, it would be helpful for the Requiring Authority to advise in evidence or at the hearing, what effects the FDS will have on the timing of the Takaanini Level Crossings project.

I request that the Requiring Authority provides the following information either in evidence or at the hearing:

- description of what effects the "Tamaki-Whenua Taurikura Auckland Future Development Strategy 2023-2053" (FDS) will have on the timing of the Takaanini Level Crossings project.

5.8 Designation lapse period extension – section 184(1)(c)

As outlined in section 5.1.15 of my report it would be helpful for the Requiring Authority to provide additional information in evidence or at the hearing to justify the 15 year extended lapse dates for the NoRs in response to the issues raised.

5.9 Part 2 of the Resource Management Act 1991

The purpose of the RMA is set out in section 5(1) which is: *to promote the sustainable management of natural and physical resources*.

Sustainable management is defined in section 5(2) as:

…managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while –

(a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and

(c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

An assessment under section 5 of RMA is provided in section 12.3 of the AEE. The project will result in some adverse effects as discussed in section 5.1 of my report above, however when considering the significant benefits of the project, and the measures proposed to avoid, remedy and mitigate the adverse effects, subject to the satisfactory provision of the further information sought in this report and subject to the proposed amended and additional conditions, I generally agree that the project achieves the purpose and principles of the RMA.

Section 6 of the RMA sets out the matters of national importance which must be recognised and provided for. An assessment of the matters of national importance considered to be relevant to the NoRs required to deliver the Takaanini Level Crossings project is addressed in section 12.3.1 and Table 12-4, of the AEE. I generally agree with this assessment.

Section 7 of the RMA sets out other matters which shall be given particular regard to. An assessment of other matters considered relevant to the NoRs required to deliver the Takaanini Level Crossings project is addressed in section 12.3.2 and Table 12-5 of the AEE. I generally agree with this assessment.

Section 8 of the RMA requires the principles of the Treaty of Waitangi to be taken into account. An assessment is contained in section 12.3.3 of the AEE. I generally agree with this assessment.

6. Conclusions

Auckland Transport as the Requiring Authority has lodged Takaanini Level Crossings Project NoR 1 and Takaanini Level Crossings Project NoR 2 under section 168 of the RMA.

I consider that subject to the provision of the requested information and subject to conditions and with modifications as set out in this report that it is recommended to the requiring authority that Takaanini Level Crossings NoR 1 and NoR 2 should be confirmed for the following reasons:

- The notice of requirement is consistent with Part 2 of the RMA in that it enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety.
- The notice of requirement is consistent with and gives effect to the relevant national environmental standards, national policy statements and the AUP:OP.
- In terms of section 171(1)(b) of the RMA, adequate consideration has been given to alternative sites, routes or methods for undertaking the work.
- In terms of 171(1)(c) of the RMA, the notice of requirement is reasonably necessary to achieve the requiring authority's objectives.
- Restrictions, by way of conditions, imposed on the designation can avoid, remedy or mitigate any potential adverse environmental effects.

7. Recommendations and conditions

7.1.1 Recommendations

NoR 1

Subject to new or contrary evidence being presented at the hearing, and the Requiring Authority supplying adequate responses to issues raised in the body of this report, it is recommended that Takaanini Level Crossings Project Notice of Requirement 1 be confirmed by the Requiring Authority, subject to the amended and additional conditions, set out in **Attachment 6** to this report.

That pursuant to section 171(3) of the RMA the reasons for the recommendation are as follows:

- The notice of requirement is consistent with Part 2 of the RMA in that it enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety.
- The notice of requirement is consistent with and gives effect to the relevant national environmental standards, national policy statements and the AUP:OP.
- In terms of section 171(1)(b) of the RMA, adequate consideration has been given to alternative sites, routes or methods for undertaking the work.
- In terms of 171(1)(c) of the RMA, the notice of requirement is reasonably necessary to achieve the requiring authority's objectives.
- Restrictions, by way of conditions, imposed on the designation can avoid, remedy or mitigate any potential adverse environmental effects.

NoR 2

Subject to new or contrary evidence being presented at the hearing, and the Requiring Authority supplying adequate responses to issues raised in the body of this report, it is recommended that Takaanini Level Crossings Project Notice of Requirement 2 be confirmed by the Requiring Authority, subject to the amended and additional conditions, set out in **Attachment 6** to this report.

That pursuant to section 171(3) of the RMA the reasons for the recommendation are as follows:

- The notice of requirement is consistent with Part 2 of the RMA in that it enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety.
- The notice of requirement is consistent with and gives effect to the relevant national environmental standards, national policy statements and the AUP:OP.
- In terms of section 171(1)(b) of the RMA, adequate consideration has been given to alternative sites, routes or methods for undertaking the work.
- In terms of 171(1)(c) of the RMA, the notice of requirement is reasonably necessary to achieve the requiring authority's objectives.
- Restrictions, by way of conditions, imposed on the designation can avoid, remedy or mitigate any potential adverse environmental effects.

7.1.2 Recommended conditions

The conditions set recommended by the reporting planner for Takaanini Level Crossings Project NoR 1 and NoR 2 are set out in **Attachment 6** to this report.

8. Attachments

Attachment 1:	COPIES OF SUBMISSIONS
Attachment 2:	LOCAL BOARD VIEWS
Attachment 3:	SUMMARIES OF SUBMISSIONS
Attachment 4:	ADDITIONAL INFORMATION POST NoR NOTIFICATION
Attachment 5:	AUCKLAND COUNCIL SPECIALIST REVIEWS
Attachment 6:	RECOMMENDED AMENDMENTS TO THE PROPOSED CONDITIONS

ATTACHMENT TWO

LOCAL BOARD VIEWS

Franklin Local Board

OPEN MINUTES

Minutes of a meeting of the Franklin Local Board held in the Leslie Comrie Board Room, Level One Franklin: The Centre, 12 Massey Ave, Pukekohe on Tuesday, 12 December 2023 at 9.30am.

TE HUNGA KUA TAE MAI | PRESENT

Chairperson	Angela Fulljames	
Deputy Chairperson	Alan Cole	
Members	Malcolm Bell JP	Online
	Sharlene Druyven	Online
	Gary Holmes	
	Amanda Hopkins	
	Andrew Kay	
	Amanda Kinzett	
	Logan Soole	

Member Holmes had declared a conflict of interest in the next item (17), and left the room, taking no part in the discussion or voting

17 Local Board Views on Takaanini Level Crossings Notices of Requirement from Auckland Transport

Craig Cairncross, Team Leader Planning, was online to speak to this item.

Resolution number FR/2023/211

MOVED by Chairperson A Fulljames, seconded by Member A Kay:

That the Franklin Local Board:

a) whakarite / provide the following views on two notices of requirement (NoRs) for the Takaanini Crossings:

- **i) tautoko / support the proposal for the Takaanini Level Crossing Project: Spartan Road, Manuia Road, Manuroa Road and Taka Street (new multi-modal bridge crossings at Manuia Road and Taka Street, new active mode bridge crossings of the North Island Main Trunk at Spartan Road and Manuroa Road and two consequential road closures) as outlined in NoR 1**
- **ii) tautoko / support a form of grade separation for the Takaanini Level Crossing Project: Walters Road as outlined in NoR 2**
- **iii) acknowledge that these locations are not in the Franklin Local Board area. Franklin Local Board feedback is provided, noting that the designation and following project delivery will facilitate movement for neighbouring Franklin Local Board communities**
- **iv) recommend that the views of the Papakura Local Board are received with weight, given they are best placed to represent their views of directly affected communities**

b) whakahē / decline the opportunity to appoint a local board member to speak to the local board views at a hearing on the Notices of Requirements.

CARRIED

18 Update on the Rural Advisory Panel

Resolution number FR/2023/212

MOVED by Member L Soole, seconded by Member A Kinzett:

That the Franklin Local Board:

a) whiwhi / receive a verbal update from the appointed representative on the Rural Advisory board, Alan Cole, on matters being considered by Rural Advisory Panel with the following updates:

- **i) National Policy Statement Freshwater Management implementation update- consultation**
- **ii) Pukekohe Specified Vegetable Growing Area and the mapping issues.**
- **iii) 30 projects proposed seeking funding from the Ministry For the Environment $10m fund. Nitrogen cap reporting for Dairy farms only 30 per cent; Freshwater Farm Plans Update, and which Freshwater Management Unit they are in will set their staging**
- **iv) Dairy Effluent Discharge fees and charging, process for disputing invoices, Health & Safety requirements when doing inspections**

Manurewa Local Board

OPEN MINUTES

Minutes of a meeting of the Manurewa Local Board held in the Manurewa Local Board Office, 7 Hill Road, Manurewa and via video conference (Microsoft Teams) on Thursday, 7 December 2023 at 1.30pm.

TE HUNGA KUA TAE MAI | PRESENT

Chairperson	Glenn Murphy	
Deputy Chairperson	Matt Winiata	
Members	Joseph Allan	
	Heather Andrew	
	Angela Cunningham-Marino	
	Rangi McLean	From 1.37pm

TE HUNGA KĀORE I TAE MAI | ABSENT

Members	Anne Candy
	Andrew Lesa

			November 2024 to 30 June 2024		
Application ID	**Organisation**	**Main focus**	**Requesting funding for**	**Amount requested**	**Decision**
LG2410-233	Action Education Incorporated	Arts and culture	Towards operational cost to run twenty the cost to deliver twenty Spoken Word Poetry workshops at Manurewa High School from 30 January 2024 to 26 July 2024	$5,000.00	$0 Declined – oversubscribed
Total				**$171,958.46**	**$32,148.96**

CARRIED

15 Local Board Views on Takaanini Crossings Notices of Requirement from Auckland Transport

Resolution number MR/2023/218

MOVED by Chairperson G Murphy, seconded by Member H Andrew:

That the Manurewa Local Board:

a) provide the following views on two notices of requirement (NoRs) for the Takaanini Crossings

Notice of Requirement: Takaanini Level Crossing Project: Spartan Road, Manuia Road, Manuroa Road and Taka Street

i) whakatārewa / defer to and support the Papakura Local Board's feedback on this matter

Notice of Requirement 2: Takaanini Level Crossing Project: Walters Road level crossing closure and new multi-modal bridge

ii) whakatārewa / defer to and support the Papakura Local Board's feedback on this matter

b) whakahē / decline to appoint a local board member to speak to the local board views at a hearing on the Notices of Requirement

CARRIED

16 Local Board Views on South FTN Notices of Requirement from Auckland Transport

Resolution number MR/2023/219

MOVED by Chairperson G Murphy, seconded by Member A Cunningham-Marino:

That the Manurewa Local Board:

a) provide the following views on four notices of requirement (NoRs) for the South Frequent Transport Network

Ōtara-Papatoetoe Local Board

OPEN MINUTES

Minutes of a meeting of the Ōtara-Papatoetoe Local Board held in the Woodside Room, Level 1, Manukau Civic Building, 31-33 Manukau Station Road, Manukau, on Tuesday, 5 December 2023 at 5.01pm.

TE HUNGA KUA TAE MAI | PRESENT

Chairperson	Apulu Reece Autagavaia	
Deputy Chairperson	Dr Ofa Dewes, MNZM	
Members	Dr Ashraf Choudhary, QSO, JP	
	Topou Folau	via electronic link
	Vi Hausia	
	Li'amanaia Lorenzo Kaisara	
	Albert Lim	via electronic link

TE HUNGA ĀPITI KUA TAE MAI | ALSO PRESENT

Councillor	Alf Filipaina, MNZM	Until 5.23pm

MOVED by Chairperson AR Autagavaia, seconded by Member A Choudhary:

That the Ōtara-Papatoetoe Local Board:

a) ohia / endorse the development of an Indicative Business Case to investigate the feasibility of developing a community hub to deliver integrated library and community services in Old Papatoetoe.

b) tautoko / support the investigation of options for the development of a community hub including funding sources within the following three locations:

i. Location 1 - the Papatoetoe Chambers/Town Hall site (35 St George Street)

ii. Location 2 - the Papatoetoe Food Hub site (part 27 St George Street)

iii. Location 3 - the Papatoetoe War Memorial Library site (30 Wallace Road).

CARRIED

16 Local Board Views on South Frequent Transit Network Notices of Requirements

Resolution number OP/2023/202

MOVED by Chairperson AR Autagavaia, seconded by Member V Hausia:

That the Ōtara-Papatoetoe Local Board:

a) tuhi ā-taipitopito / note their support for programmes that ease congestion and allow for better movement to and through Manukau city centre, as well as increasing the usability of public transport.

CARRIED

17 Local Board Views on Takaanini Crossings Notices of Requirement from Auckland Transport

Resolution number OP/2023/203

MOVED by Chairperson AR Autagavaia, seconded by Member A Choudhary:

That the Ōtara-Papatoetoe Local Board:

a) tuhi ā-taipitopito / note their support for programmes that ease congestion and allow for better movement to and through Manukau city centre, as well as increasing the usability of public transport.

CARRIED

18 Adoption of the Ōtara-Papatoetoe Local Climate Action Plan

Resolution number OP/2023/204

MOVED by Chairperson AR Autagavaia, seconded by Deputy Chairperson O Dewes, MNZM:

That the Ōtara-Papatoetoe Local Board:

a) whai / adopt the Ōtara-Papatoetoe Local Climate Action Plan' as per Attachment A.

Papakura Local Board

OPEN MINUTES

Minutes of a meeting of the Papakura Local Board held in the Local Board Chambers, 35 Coles Crescent, Papakura and online on Wednesday, 13 December 2023 at 4.00pm.

TE HUNGA KUA TAE MAI | PRESENT

Chairperson	Brent Catchpole (via video conference)
Deputy Chairperson	Jan Robinson
Members	Felicity Auva'a
	George Hawkins
	Kelvin Hieatt
	Andrew Webster

TE HUNGA ĀPITI KUA TAE MAI | ALSO PRESENT

Councillor	Daniel Newman
Councillor	Angela Dalton (online from 4.18pm)
Councillor	Julie Fairey

HE HUNGA ATU ANŌ I TAE MAI | IN ATTENDANCE

Mana Whenua	Karen Wilson (Te Ākitai Waiohua)

10 Ngā Pakihi Autaia | Extraordinary Business

There was no extraordinary business.

11 Governing Body Members' Update

Resolution number PPK/2023/208

MOVED by Deputy Chairperson J Robinson, seconded by Chairperson B Catchpole:

That the Papakura Local Board:

a) whiwhi / receive verbal updates from Councillors Angela Dalton and Daniel Newman, and thank Councillor Julie Fairey for her comments.

CARRIED

12 Chairperson's Update

The Chairperson's written update was tabled at the meeting. A copy has been placed on the official minutes and is available on the Auckland Council website as a minutes attachment.

Resolution number PPK/2023/209

MOVED by Chairperson B Catchpole, seconded by Deputy Chairperson J Robinson:

That the Papakura Local Board:

a) receive the written Chairperson's report from Chairperson Brent Catchpole presented by acting Chairperson Jan Robinson.

CARRIED

Attachments

A Tabled document - written Chairperson's report

13 Auckland Transport Update to the Papakura Local Board - December 2023

Resolution number PPK/2023/210

MOVED by Deputy Chairperson J Robinson, seconded by Member K Hieatt:

That the Papakura Local Board:

a) receive the December report from Auckland Transport.

CARRIED

14 Local Board Views on Takanini Crossings Project Notices of Requirement from Auckland Transport

Resolution number PPK/2023/211

MOVED by Deputy Chairperson J Robinson, seconded by Member G Hawkins:

That the Papakura Local Board:

a) provide the following views on two the Notices of Requirement for the Takanini Level Crossings:

i) support grade separation as a priority to ensure the efficient operation of the roading and rail network

ii) express concern that only having a pedestrian bridge over Manuroa Road will divide the local community and make shops and businesses on Manuroa Road and in the Gateway Shopping Centre on the corner of Manuroa and Great South Roads, difficult to access

iii) express concern that the bridge on Walters Road is the most disruptive option for the surrounding community and property owners, and request that the commissioners scrutinise this option rigorously to ensure this provides the best environmental and community outcome rather than just financial outcome

iv) request that a public information campaign to engage the community in understanding the reasons for the decision is initiated after the decision to address the inevitable concerns in the community arising as a result

b) appoint Chairperson Brent Catchpole to speak to the local board views at a hearing on the Notices of Requirement

c) delegate authority to the chairperson of the Papakura Local Board to make a replacement appointment in the event the local board member appointed in resolution (b) is unable to attend the Notices of Requirement hearing.

CARRIED

15 Local Board Views on South Frequent Transport Network Notices of Requirement from Auckland Transport

Resolution number PPK/2023/212

MOVED by Deputy Chairperson J Robinson, seconded by Member F Auva'a:

That the Papakura Local Board:

a) provide the following views on the four Notices of Requirement for the South Frequent Transport Network:

i) request protection of the following trees and structures of significance when later planning work is carried out:

1) the Phoenix Palm and the Totara tree near the Papakura Cenotaph

2) the trees within Central Park along the edge of Opaheke Road

3) the trees outside the veterinary practice on the corner of Beach Road

4) the grassy mounds and flag pole on the corner of Great South Road and Settlement Road

ii) request the whole of Great South Road from the Takanini interchange to Drury is designated to ensure the multi-modal transport corridor is protected and ensuring an off-road walking and cycling lane is taken into account.

b) appoint Chairperson Brent Catchpole to speak to the local board views at a hearing on the Notices of Requirement

ATTACHMENT THREE

SUMMARIES OF SUBMISSIONS

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
1	Pam Scott Family Trust	Oppose	Economic loss Lapse period	Owns 6/6 and 7/6 Taka Street. Concerned that NoRs will hinder the submitter selling their properties, which they want to do soon. Seeks property buy out.	Social
2	A1 Auto Panel and Paint	Oppose	Transport constraints	Closing Spartan Road will make submitter dependent on online business. Seeks payment to help the business.	Social Transport
2	A1 Auto Panel and Paint	Oppose	Economic loss	Closing Spartan Road will make submitter dependent on online business. Seeks that proposal be declined.	Social
3	Johnstone Properties Partnership	Oppose	Economic loss	Seeks that council underwrite rental losses arising from NoR	Social
3	Johnstone Properties Partnership	Oppose	Lapse period	Seeks maximum two year designation period for land at 4 Manuia Road	Social
4	Takanini Business Association Inc	Oppose		Decline NoR.	
4	Takanini Business Association Inc	Oppose	Inadequate consideration of alternatives	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as loss of businesses	Geotech Social Landscape
4	Takanini Business Association Inc	Oppose	Construction - transport and freight	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as construction effects on transport, including freight movements	Social Transport
4	Takanini Business Association Inc	Oppose	Transport and freight	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as long term operation effects on transport, especially for freight movements	Social Transport
4	Takanini Business Association Inc	Oppose	Transport - parking	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as reduced on-street and on-site parking	Social Transport
4	Takanini Business Association Inc	Oppose	Transport - reduced property access	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as reduced access to property	Transport Devt Eng Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
4	Takanini Business Association Inc	Oppose	Construction - noise and vibration	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as noise and vibration effects during construction	Geotech Noise and Vibration Social
4	Takanini Business Association Inc	Oppose	Construction - operational	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as operational and economic effects during construction	Transport Devt Eng Social
4	Takanini Business Association Inc	Oppose	Detailed plans	If the option of raising the road (i.e. road over rail) is preferred, then the proposals by the applicant to include conditions and detailed plans are supported, including: - a Stakeholder and Community Engagement Plan - a Development Response Plan (DRP) - a Community Health and Wellbeing Strategy - a Property Management Strategy - detailed design and construction planning	Geotech Social
4	Takanini Business Association Inc	Oppose	Management plans	If the option of raising the road (i.e. road over rail) is preferred, then the proposals by the applicant to include conditions regarding the following are supported: - an Urban Design and Landscape Management Plan - a Construction Traffic Management Plan - a Construction Noise and Vibration Management Plan	Noise and Vibration Landscape Social
4	Takanini Business Association Inc	Oppose	Lapse period	Lapse period of 15 years instead of 5 years creates longer uncertainty for the business community	Social
5	Brian Hogan	Oppose	Underpasses	Underpass option should have been provided. Underpasses take up far less land, are cost beneficial. And less disruptive in both construction and visually.	Geotech Landscape Urban Design Transport
5	Brian Hogan	Oppose	Underpasses	Insufficient alternatives to overbridges considered by Auckland Transport.	Geotech Landscape Urban design Transport
6	Carter Building Supplies	Oppose	Site operation	Seeks removal of NoR from 12 Walters Road so business operation on that site is not constrained.	Devt Eng Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
6	Carter Building Supplies	Oppose	Transport - reconfigured site access	Ensure easy site access to 12 Walters Road	Devt Eng Social
7	Portsmouth Family Trust		Economic loss	Concerned about economic loss due to decreased visibility of business at 18 Manuroa Road	Social
7	Portsmouth Family Trust		Transport - reconfigured site access	Concerned that proposed vehicle access for drop off to kindergarten at 18 Manuroa Road will be too difficult and discourage customers	Transport Devt Eng Social
7	Portsmouth Family Trust		Transport - removal of carparks from site	Removal of carparks from site at 18 Manuroa Road will jeopardise business operations	Transport Social
7	Portsmouth Family Trust		Construction restrictions on traffic access	Construction access for site at 18 Manuroa Road will be inconvenient and last for a long period	Transport Devt Eng Social
7	Portsmouth Family Trust		Construction air pollution	Construction air pollution at 18 Manuroa Road such as dust will be inconvenient and last for a long period	Social
7	Portsmouth Family Trust		Construction - noise	Construction noise at 18 Manuroa Road will be inconvenient and last for a long period	Noise and Vibration Social
7	Portsmouth Family Trust		Economic loss	Concerned about kindergarten tenants at 18 Manuroa Road renewing lease because of NoR	Social
8	Telecommunications Submitters		Network utilities - telecommunication providers	Oppose the NoR unless existing and potential future telecommunications infrastructure in the project corridor is adequately addressed as requested in the submission.	Devt Eng Social
8	Telecommunications Submitters		Network utilities	Seeks the following amendment (shown in underline) to the NUMP (Network Utilities Management Plan) condition in the NOR: (This is a further amendment to conditions agreed with requiring authorities in the Airport to Botany and Northwest Transport projects, which have not been carried through to this NoR) "(d) the development of the NUMP shall consider opportunities to co-ordinate future work programmes with other Network Utility Operator(s) <u>during the further project stages including detailed design</u> where practicable."	Devt Eng Social
8	Telecommunications Submitters		Network utilities	Retain the Land Integration Process (LIP) condition.	Devt Eng

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
9	Anil Kumar	Support		Supports the NoR and provision of information prior to work being undertaken	Social
10	Matthew Koppens & Denise Ibbett	Oppose		Decline the NoR in its current form	
10	Matthew Koppens & Denise Ibbett	Oppose	Alternatives	Provide a more robust investigation of alternative options that have a better cost to benefit outcome	Transport
10	Matthew Koppens & Denise Ibbett	Oppose	Socio-economic effects	Further consider a grade separated crossing at Manuroa Road. Investigate all options in terms of socio-economic impacts for an under pass, raised rail and overpass	Social
10	Matthew Koppens & Denise Ibbett	Oppose	Environmental effects	Further consider a grade separated crossing at Manuroa Road. Investigate all options in terms of environmental effects for an under pass, raised rail and overpass	Geotech Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
10	Matthew Koppens & Denise Ibbett	Oppose	Transport effects	Further consider a grade separated crossing at Manuroa Road. Investigate all options in terms of traffic for an under pass, raised rail and overpass	Transport
10	Matthew Koppens & Denise Ibbett	Oppose	Economic effects	Further consider a grade separated crossing at Manuroa Road. Investigate all options in terms of cost benefits for an under pass, raised rail and overpass	Transport Urban Design
10	Matthew Koppens & Denise Ibbett	Oppose	Investigate Manuia Road Option 4-3 (Hitchcock Road to Great South Road)	Provide further more robust investigations of the alternative grade-separated crossings further north, as noted on page 38 of the AEE - Appendix A - Assessment of Alternatives, particularly Option 4.3 [Hitchcock Road to Great South Road] (or a variation of this to provide an intersection with Great South Road that is further from SH1)	Geotech
10	Matthew Koppens & Denise Ibbett	Oppose	Transport	Adverse traffic movements and volumes will be created by closing off two busy rail crossings (Spartan Road and Manuroa Road) and funnelling all the vehicle movements from both roads down a minor road (Oakleigh Avenue) around a relatively small roundabout and over a single lane (in each direction) bridge. Traffic movements and safety a particular concern for Oakleigh Avenue. Over dimension route will need to be well-designed	Transport
10	Matthew Koppens & Denise Ibbett	Oppose	Noise and Vibration	Manuia Road proposal will also significantly increase ground vibration and noise for the local residents and business of Oakleigh Avenue.	Noise and Vibration Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
10	Matthew Koppens & Denise Ibbett	Oppose	Transport - freight routes	Manuia Road proposal will require new over-dimension route to be well designed.	Transport
10	Matthew Koppens & Denise Ibbett	Oppose	Transport	Inadequate consideration of how the new bridges will connect with Great South Road	Transport
10	Matthew Koppens & Denise Ibbett	Oppose	Transport	Inadequate consideration of connectivity with State Highway 1 with closure of Spartan Road crossing.	Transport
10	Matthew Koppens & Denise Ibbett	Oppose	Traffic access Economic Social	Concerns that adverse effects on access to roading infrastructure will require businesses to relocate, losing employment opportunities and services for Takanini as alternative sites are not readily available.	Social
10	Matthew Koppens & Denise Ibbett	Oppose	Transport	Inadequate consideration of future connectivity with Mill Road. Concerned about how Oakleigh Avenue will potentially connect to Mill Road. Further investigation should be carried out into location the bridge and vehicle corridor further north in order to better connect with Popes Road, which is a likely traffic corridor east to Mill Road.	Transport
10	Matthew Koppens & Denise Ibbett	Oppose	Transport - walking and cycling	Safety concern for cyclists and pedestrians at Spartan Road	Transport
10	Matthew Koppens & Denise Ibbett	Oppose	Lapse period Economic loss Social	Long lapse period increases uncertainty for property owners. Economic uncertainty. Stress.	Social
10	Matthew Koppens & Denise Ibbett	Oppose	Inadequate community and affected property owner consultation	Engage in more detail with the local community, including at 26 Oakleigh Avenue, to provide details more of how NoR effects from the project can be avoided or mitigated.	Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
10	Matthew Koppens & Denise Ibbett	Oppose	Remove from site	If the designations are not declined, amend the NoR to avoid remedy or mitigate the concerns raised in the submission, including but not limited to: - investigation of other options that avoid a designation over 26 Oakleigh Avenue	Transport
10	Matthew Koppens & Denise Ibbett	Oppose	Site operation including access and manoeuvring	If the designations are not declined, amend the NoR to avoid remedy or mitigate the concerns raised in the submission, including but not limited to: - modification of the proposed project to minimise the impact on 26 Oakleigh Avenue, including ongoing use of the site and building, and access and manoeuvring	Social
10	Matthew Koppens & Denise Ibbett	Oppose	Construction restrictions on traffic access and manoeuvring	If the designations are not declined, amend the NoR to avoid remedy or mitigate the concerns raised in the submission, including but not limited to: - minimising temporary effects of the project on 26 Oakleigh Avenue, including access and manoeuvring	Transport
10	Matthew Koppens & Denise Ibbett	Oppose	Economic loss	If the designations cannot be amended, the submitter seeks formal negotiations with Auckland Transport and Supporting Growth to formalise compensation under the Public Works Act (relating to 26 Oakleigh Avenue).	Social
10	Matthew Koppens & Denise Ibbett	Oppose	Engagement with submitter sought	Engagement with Auckland Transport sought by the submitter to ensure submitter's concerns are appropriately addressed.	Social
11	Oceania Healthcare	Oppose		Decline the NoR unless conditions requested by the submitter are accepted.	
11	Oceania Healthcare	Oppose	Noise and Vibration Dust Traffic Residential amenity Urban design Landscape	For the full duration of the construction phase of works, appropriate management and mitigation is required to reduce the effects of nuisance including but not limited to noise, vibration, dust, and traffic, and on the amenity of the residential environment, specifically the healthcare facility at 9, 11 and 13 Taka Street and 3 Takanini Road	Noise and Vibration Transport Social Landscape Urban design

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
11	Oceania Healthcare	Oppose	Traffic - site access and parking at 9, 11 and 13 Taka Street and 3 Takanini Road	The detailed design of the works needs to incorporate careful consideration of and facilitate the provision of access and parking to the site at 9, 11 and 13 Taka Street and 3 Takanini Road for staff, visitors, emergency services and loading and unloading facilities.	Transport Social Urban Design
11	Oceania Healthcare	Oppose	Traffic - site access and parking at 9, 11 and 13 Taka Street and 3 Takanini Road	Provide conditions to maintain the existing level of service for access to the site at 9, 11 and 13 Taka Street with potentially new parking and access provided from Takanini Road.	Transport Devt Eng
11	Oceania Healthcare	Oppose	Traffic - site access and parking at 9, 11 and 13 Taka Street and 3 Takanini Road	Provide a connection through the site between the proposed slip lane and Takanini Road to improve accessibility for delivery vehicles and emergency service vehicles and in particular provide a dedicated safe evacuation zone.	Transport Social
11	Oceania Healthcare	Oppose	Traffic - proposed Taka Street slip lane	Implement measures to ensure non-healthcare facility traffic can turn around within the Taka Street slip lane without needing to enter the site at 9, 11 and 13 Taka Street and 3 Takanini Road	Social
11	Oceania Healthcare	Oppose	Construction restrictions on traffic access and parking	Maintain the current number of parking spaces off-street at 9, 11 and 13 Taka Street and 3 Takamine Road in an accessible location for staff and visitors during construction	Transport Social
11	Oceania Healthcare	Oppose	Traffic - operational parking and access	Maintain the current number of parking spaces off-street in an accessible location for staff and visitors during operation	Transport Social
11	Oceania Healthcare	Oppose	Transport - maintenance of access to public transport	Maintain safe and legible access for visitors and staff to at 9, 11 and 13 Taka Street and 3 TakaninI Road to public transport stops	Transport Devt Eng Social Urban design
11	Oceania Healthcare	Oppose	Construction effects on healthcare facility	Appropriate management and engagement with the operator prior to and during construction to ensure the safety and comfort of the patients and staff at 9, 11 and 13 Taka Street and 3 TakaninI Road is maintained	Social
11	Oceania Healthcare	Oppose	Landscaping	Provision of appropriate landscaping along the Taka Street frontage at 9, 11 and 13 Taka Street to maintain the frontage, amenity and street presence of the facility	Social Landscape Urban design
11	Oceania Healthcare	Oppose		Such other conditions, relief or consequential amendments as are considered appropriate or necessary to address the matters outlined in this submission	

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
11	Oceania Healthcare	Oppose	Social	Adverse effect on staff at 9, 11 and 13 Taka Street and 3 TakaninI Road to who use the existing childcare facility on Taka Street which is proposed to be removed as part of the NoR	Social
12	B&F Papers Ltd	Oppose		Decline the NoR	
12	B&F Papers Ltd	Oppose	Site access	Application appears to overlook submitter's property at 33 Oakleigh Avenue. Concern that property not mentioned in page 119 - Table 40 of the assessment as a property that will have its access affected by Hitchcock Road roundabout construction. Concerned that NoR may landlock 33 Oakleigh Avenue.	Transport
12	B&F Papers Ltd	Oppose	Traffic - Hitchcock Road	Hitchcock Road is used by multiple heavy vehicles to access submitter's site at 33 Oakleigh Avenue, but this is not mentioned in Appendix B of Assessment of Transport Effects of NoR 1, which suggests that heavy vehicle use of Hitchcock Road is zero per cent.	Transport
12	B&F Papers Ltd	Oppose	Construction effects - traffic access	Submitter concerned about significant construction effects on their site and business. Only vehicle access to 33 Oakleigh Avenue is through Hitchcock Road. Table 40 of the Assessment of Transport Effects of NoR 1 suggests access to 15 Oakleigh Avenue and 39 Oakleigh Avenue (on either side of 33 Oakleigh Avenue) can be provided during construction instead of using Hitchcock Road, with Hitchcock Road access reinstated after construction.	Transport Social
12	B&F Papers Ltd	Oppose	Transport	Adverse traffic effects will be created by closing off Spartan Road and Manuroa Road and using Oakleigh Avenue as a heavy traffic route. New roundabout will be used for U turns. New Manuia Road bridge will only be single lane in each direction. Using route as over dimension route will add pressure.	Transport
12	B&F Papers Ltd	Oppose	Stormwater infrastructure	Clarification sought about whether modified stream channel which crosses submitter's property at 33 Oakleigh Avenue will be impacted by the project. Channel was paid for by submitter as part of their development consents, and is also outside project area. Channel is referred to in AEE (pages 47 and 72).	Stormwater

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
12	B&F Papers Ltd	Oppose	Construction - noise and vibration	Submitter concerned that their property at 33 Oakleigh Avenue is not included in the Assessment of Construction Noise and Vibration. Figure 4 on page 5 ("Indicative piling locations and designation overlay (Manuia Road) does not map 33 Oakleigh Avenue as an affected property. 33 Oakleigh Avenue is very close to the construction of Manuia Road bridge and the new roundabout at the intersection of Oakleigh Avenue and Hitchcock Road.	Noise and Vibration
13	The Runciman Trust	Oppose	Alternatives	View of the Assessment of Alternatives that has been provided is deficient. Alternatives should be reconsidered.	Geotech Transport
13	The Runciman Trust	Oppose	Timing of designation on sites	Do not apply designations before any hearing decision is made	
13	The Runciman Trust	Oppose	Lapse period Economic loss Social	An 8-15 year time period before the project proceeds is too long for businesses and property owners. Uncertainty. Stressful. No suitable location for business at 3/24 Oakleigh Avenue to relocate to nearby. Uncertainty.	Social
13	The Runciman Trust	Oppose	Traffic	Business traffic and freight access will be seriously affected, including for submitter's site at 3/24 Oakleigh Avenue.	Transport Social
13	The Runciman Trust	Oppose	Traffic Social	Residential areas will have traffic problems.	Transport Social
13	The Runciman Trust	Oppose	Traffic Social	Increased risk to children with increased traffic passing schools, childcare facilities and local shopping areas.	Social
14	AtSource	Oppose	Alternatives	Cancel the proposal. Should proceed with Mill Road instead, which will improve traffic.	Transport
14	AtSource	Oppose	Lapse period Economic loss Social	An 8-15 year time period before the project proceeds is too long for businesses and property owners. Uncertainty. Stressful. No suitable location for business at 4/24 Oakleigh Avenue to relocate to nearby. Uncertainty.	Social
14	AtSource	Oppose	Traffic	Business traffic and freight access will be seriously affected, including for submitter's site at 4/24 Oakleigh Avenue.	Transport Social
14	AtSource	Oppose	Alternatives	View of the Assessment of Alternatives that has been provided is deficient. Alternatives should be reconsidered.	Transport
14	AtSource	Oppose	Traffic	Business traffic and freight access will be seriously affected, including for submitter's site at 4/24 Oakleigh Avenue.	Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
14	AtSource	Oppose	Traffic Social	Residential areas will have traffic problems.	Social
14	AtSource	Oppose	Traffic Social	Increased risk to children with increased traffic passing schools, childcare facilities and local shopping areas.	Social
15	Aintree Group Ltd	Oppose		Decline the NoR	
15	Aintree Group Ltd	Oppose	Traffic - parking	Concerned about effects of removal of 7 carparks on 39 Oakleigh Avenue (as referred to in Assessment of Transport Effects Table 39 (pages 116-118))	Transport Social
15	Aintree Group Ltd	Oppose	Traffic - site access	Maintain current truck access points to 39 Oakleigh Avenue.	Transport
15	Aintree Group Ltd	Oppose	Construction effects - traffic access	Submitter concerned about significant construction effects on their site and business at 39 Oakleigh Avenue, which also has frontage to Hitchcock Road. Table 40 of the Assessment of Transport Effects of NoR 1 (page 119) suggests access to 39 Oakleigh Avenue can be provided via Oakleigh Avenue during construction instead of using Hitchcock Road, with Hitchcock Road access reinstated after construction.	Transport
15	Aintree Group Ltd	Oppose	Traffic - Hitchcock Road	Hitchcock Road is used by multiple heavy vehicles, but this is not mentioned in Appendix B of Assessment of Transport Effects of NoR 1, which suggests that heavy vehicle use of Hitchcock Road is zero per cent.	Transport
15	Aintree Group Ltd	Oppose	Transport	Adverse traffic effects will be created by closing off Spartan Road and Manuroa Road and using Oakleigh Avenue as a heavy traffic route. New roundabout will be used for U turns. New Manuia Road bridge will only be single lane in each direction. Using route as over dimension route will add pressure.	Transport
15	Aintree Group Ltd	Oppose	Traffic - Manuia Road Bridge and Oakleigh Avenue	Require two lanes exiting Manuia road bridge onto Oakleigh Avenue to cope with increased traffic, one lane to turn left only and one to turn right or go straight ahead.	Transport
15	Aintree Group Ltd	Oppose	Traffic - Spartan Road	Provide free right turn into Spartan Road once Spartan Road is terminated at the crossing.	Transport
15	Aintree Group Ltd	Oppose	Traffic - construction timing Spartan Road	Keep Spartan Road open until the new bridge at Manuroa Road is operating.	Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
15	Aintree Group Ltd	Oppose	Stormwater infrastructure	Clarification sought about whether modified stream channel near submitter's property at 39 Oakleigh Avenue will be impacted by the project. Channel is referred to in AEE (page 72).	Stormwater
15	Aintree Group Ltd	Oppose	Construction - noise and vibration	Submitter concerned that their property at 39 Oakleigh Avenue is not included in the Assessment of Construction Noise and Vibration. Figure 4 on page 5 ("Indicative piling locations and designation overlay (Manuia Road) does not map 39 Oakleigh Avenue as an affected property. 39 Oakleigh Avenue is very close to the construction of Manuia Road bridge and the new roundabout at the intersection of Oakleigh Avenue and Hitchcock Road.	Noise and Vibration
16	By Design Concrete and Paving Limited	Oppose		Decline the NoR	
16	By Design Concrete and Paving Limited	Oppose	Economic Social	Cost of relocating submitter's business at 1/24 Oakleigh Avenue will be expensive. Business travel costs and stress will increase if business relocates.	Social
16	By Design Concrete and Paving Limited	Oppose	Lapse period Economic loss	No certainty about when building at 1/24 Oakleigh Avenue will be purchased for NoR.	Social
16	By Design Concrete and Paving Limited	Oppose	Traffic - Manuia Road Bridge and Oakleigh Avenue	Oakleigh Avenue will not cope with the increased traffic	Transport
17	DDI Takanni Investments Limited	Oppose	Site operation	Seeks removal of NoR from 72-86 Great South Takanini so business operation on that site is not constrained.	Transport Social
17	DDI Takanni Investments Limited	Oppose	Site operation	Seeks reduction of the designation area as it affects 72-86 Great South Road, Takanini to the minimum required to enable the road widening works to occur.	Transport
17	DDI Takanni Investments Limited	Oppose	Lapse period for NoR land only needed for construction	Limit duration of the NoR if additional land is required in the construction phase and is not required in the operational phase in perpetuity	Social
18	Dealership Properties Limited	Oppose	Resource consent	NoR conflicts with a resource consent in process for 106-162 Great South Road Takanini, and the NoR should therefore not be approved.	Stormwater Devt Eng

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
19	Miriam Chisnall	Oppose	Economic Lapse period	Stressful for submitters whose sites at 3 and 4 Oakleigh Avenue have NoRs on them with a long lapse period. Submitters now have to try to find another property to lease out to businesses.	Social
19	Miriam Chisnall	Oppose	Alternatives	Should proceed with Mill Road instead, as previous governments have purchased property and that project is ready to go	Transport
20	New Zealand Steel Limited	Support in part	Construction restrictions on traffic access	Seeks that NoR is only confirmed if appropriate conditions are included in the designation to ensure that large vehicle access at 16 Spartan Road is not constrained during construction.	Transport Social
20	New Zealand Steel Limited	Support in part	Site operation	Seeks that NoR is only confirmed if appropriate conditions are included in the designation to ensure that ongoing operation of large vehicle access at 16 Spartan Road is not constrained.	Transport Social
20	New Zealand Steel Limited	Support in part	Crime	Active mode bridge across the railway at Spartan Road may exacerbate anti-social behaviour in the area. Require appropriate conditions to be included in the designation to ensure that effective urban design is incorporated at the detailed design stage to contribute to the reduction of anti-social behaviour, such as consideration of sight lines and the implementation of adequate lighting in areas with pedestrian activity.	Social Urban Design
21	Silverfin Capital Limited	Oppose	Remove from site	Decline NoR and remove it from 1 Spartan Road	Transport
21	Silverfin Capital Limited	Oppose	Transport - reconfigured site access	Retain Spartan Road at-grade rail crossing pending development and implementation of an alternative access arrangement for 1 Spartan Road, which enables safe, convenient and efficient access for heavy goods vehicles to the arterial and motorway heading both south and north.	Transport Geotech Social
21	Silverfin Capital Limited	Oppose	Minimise area	Review NoR 1 designation boundary extent and reduce to reflect actual and reasonable area of land needed to accommodate the appropriate design for the future rail crossing.	Social
21	Silverfin Capital Limited	Oppose	Cycling need	Consider alternative arrangements of pedestrian and cycle overpass at Spartan Road to reduce permanent acquisition of private land and to account for need for cycle infrastructure.	Urban Design
21	Silverfin Capital Limited	Oppose	Lapse period	Reduce lapse date to 5 years	Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
21	Silverfin Capital Limited	Oppose	Provide two separate designation boundaries - one for operation and one for construction	Amend designation to show two separate boundaries - one for operational extent around legal road reserve, and one for construction extent	Transport
22	Big Rock Commercial Ltd and Matthew Koppens Ltd		Inadequate community and affected property owner consultation	Engage in more detail with affected property owners, including at 26 Oakleigh Avenue, to provide details of how NoR effects can be avoided or mitigated on their business and property.	Social
22	Big Rock Commercial Ltd and Matthew Koppens Ltd		Remove from site	Decline NoR and remove it from 26 Oakleigh Avenue	
22	Big Rock Commercial Ltd and Matthew Koppens Ltd			If the NoRs are not declined, amend the designations to avoid, remedy or mitigate all matters of concern raised in the submission	Noise and Vibration
22	Big Rock Commercial Ltd and Matthew Koppens Ltd		Investigate Manuia Road Option 4-3 (Hitchcock Road to Great South Road)	Further investigate Manuia Road Option 4-3 (Hitchcock Road to Great South Road) further instead of notified option 4-0, to avoid the NoR impact on 26 Oakleigh Avenue.	Transport
22	Big Rock Commercial Ltd and Matthew Koppens Ltd		Lack of detailed design	Minimise encroachment of the designation into 26 Oakleigh Avenue to enable continued business operation of the site	Transport Social
22	Big Rock Commercial Ltd and Matthew Koppens Ltd		Site operation	Minimise any permanent effects on the ongoing business operation of the site at 26 Oakleigh Avenue	Transport Social
22	Big Rock Commercial Ltd and Matthew Koppens Ltd		Construction restrictions on traffic access	Minimise any temporary effects on the ongoing business operation of the site at 26 Oakleigh Avenue	Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
22	Big Rock Commercial Ltd and Matthew Koppens Ltd		Economic loss	If the designations cannot be amended, the submitter seeks formal negotiations with Auckland Transport and Supporting Growth to formalise compensation under the Public Works Act (relating to 26 Oakleigh Avenue).	Social
22	Big Rock Commercial Ltd and Matthew Koppens Ltd		Engagement with submitter sought	Engagement with Auckland Transport sought by the submitter to ensure submitter's concerns are appropriately addressed.	Social
23	BP Oil New Zealand Limited	Oppose	Remove from site	Decline NoR and remove it from 102 Great South Road, Takanini	Transport
23	BP Oil New Zealand Limited	Oppose	Construction restrictions	Engage in more detail with the submitter about project milestones affecting 102 Great South Road, Takanini, including the likely construction timeframe.	Social
23	BP Oil New Zealand Limited	Oppose	Site operation	Enable the re-establishment of a service station on the site at 102 Great South Road, Takanini, including minimising encroachment of the designation into the site.	Devt Eng Social
24	BNAP Holdings Ltd	Oppose		Decline the NoR	Geotech Transport Social
24	BNAP Holdings Ltd	Oppose	Lapse period	That the conditions of the NoR, including the duration of the approval, and process of acquisition, be shortened to 5 years to address the uncertainty for landowners and enable people to continue to provide for their social and economic wellbeing.	Social
25	Takanini Residents Action Group	Oppose	Inadequate community and affected property owner consultation	Inadequate and community and affected property owner consultation. Council should increase early and extensive consultation and consider using social media, community groups, business organisations, churches, temples etc.	Social
25	Takanini Residents Action Group	Oppose	Users with mobility issues	Concerned about suitability of bridges in Spartan and Manuroa Roads for people with mobility issues. No designs or artists impressions of these pedestrian/cycle bridges shown to the community.	Transport Landscape
25	Takanini Residents Action Group	Oppose	Insufficient community consultation period	Extend NoR submission closing date to allow for more community consultation	Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
26	Supreme Sikh Society of NZ	Oppose	Construction phasing	Simultaneous road closures of Taka Street, Manuroa and Spartan Roads will prevent access by congregation to Sikh temple at 70 Takanini School Road. Undertake work one by one road instead of all three roads shutting down together.	Social
27	H20 Pipelines Ltd	Oppose	Vehicle pollution	Increased vehicle pollution affecting 22 Oakleigh Avenue will be unbearable, so NoR should be declined	Social
27	H20 Pipelines Ltd	Oppose	Noise	Increased noise pollution affecting 22 Oakleigh Avenue will be unbearable, so NoR should be declined	Noise
27	H20 Pipelines Ltd	Oppose	Crime	Increased visibility of property at 22 Oakleigh Avenue from proposed bridge will increase crime, so NoR should be declined	Social Urban design
27	H20 Pipelines Ltd	Oppose	Transport - reconfigured site access	Reconfigured site access for 22 Oakleigh Avenue will be dangerous, so NoR should be declined.	Transport Social
28	On Track Trust	Oppose		Opposes the NoR	
28	On Track Trust	Oppose	Transport - number of crossings over railway for vehicles	Reducing number of vehicle crossings for vehicles over railway from three two lane crossings will create congestion.	Transport
28	On Track Trust	Oppose	Types of transport on bridges	All future bridges should be active mode bridges including heavy vehicles on all bridges including the Manuia Road bridge.	Transport
28	On Track Trust	Oppose	Construction sequencing	Do not close any roads until all the bridges are completed to avoid congestion	Devt Eng
28	On Track Trust	Oppose	Engagement sought	Seeks discussions with council to come up with the best solution to keep maximum traffic flows during these changes over the coming years.	Social
28	On Track Trust	Oppose	Construction sequencing	Construct one bridge at a time to still have functioning (reduced) infrastructure through this extended time period	Devt Eng
28	On Track Trust	Oppose	Inadequate consideration of alternatives	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as loss of businesses	Geotech Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
28	On Track Trust	Oppose	Detailed plans requiring Takanini Business Association and Papakura Local Board input	If the option of raising the road (i.e. road over rail) is preferred, then the proposals by the proposals by the applicant to include conditions and detailed plans are supported (to be developed in accordance with the Papakura Local Board and the Takanini Business Association) including: - a Stakeholder and Community Engagement Plan - a Development Response Plan (DRP) - a Community Health and Wellbeing Strategy - a Property Management Strategy - detailed design and construction planning	Geotech Social
28	On Track Trust	Oppose	Construction - transport and freight	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as construction effects on transport, including freight movements	Social
28	On Track Trust	Oppose	Transport - reduced property access	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as reduced access to property	Devt Eng Social
28	On Track Trust	Oppose	Transport - Spartan Road	Spartan Road should remain open.	Transport
28	On Track Trust	Oppose	Transport - Manuroa Road	Manuroa Road bridge should also provide for vehicles.	Transport
29	Halls Transport			Decline the NoRs in their current form	
29	Halls Transport			If the NoRs are not declined, amend the designations to avoid, remedy or mitigate all matters of concern raised in the submission	
29	Halls Transport		Minimise area	Minimise encroachment of the designation into 1 and 15 Spartan Road	Transport
29	Halls Transport		Site operation - traffic	Minimise any permanent effects on the ongoing business operation of the site at 1 and 15 Spartan Road, including access and egress, manoeuvring, parking and landscaping	Transport Devt Eng Social
29	Halls Transport		Site operation - landscaping	Minimise any permanent effects on the ongoing business operation of the site at 1 and 15 Spartan Road, including landscaping	Social
29	Halls Transport		Construction - traffic	Minimise any temporary effects on the ongoing business operation of the site at 1 and 15 Spartan Road, including access and egress, manoeuvring, parking and landscaping	Transport Devt Eng Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
29	Halls Transport		Construction - landscaping	Minimise any temporary effects on the ongoing business operation of the site at 1 and 15 Spartan Road, including landscaping	Social
29	Halls Transport		Traffic access	Retain safe and convenient entry and exit via Spartan Road for Halls Transport (at 1 and 15 Spartan Road), including the ability to turn right out of the site, as was provided prior to works commencing on the overbridge	Transport Devt Eng
29	Halls Transport		Engagement with submitter sought	Ensure the NoR works are appropriately managed to avoid remedy or mitigate adverse effects on the submitter. This includes engagement with the submitter. Engagement with Auckland Transport is sought by the submitter to ensure submitter's concerns are appropriately addressed.	Social
29	Halls Transport		Management plans - construction	Involve submitter in finalisation of the Construction Environment Management Plan (CEMP)	Social
29	Halls Transport		Management plans - noise and vibration	Involve submitter in finalisation of the Construction Noise and Vibration Management Plan (CNVMP)	Noise and Vibration Social
29	Halls Transport		Management plans - traffic	Involve submitter in finalisation of the Construction Traffic Management Plan (CTMP)	Social
29	Halls Transport		Management plans - stakeholder and community engagement	Involve submitter in finalisation of the Stakeholder and Community Engagement Management Plan (SCEMP)	Social
29	Halls Transport		Management plans - council certification	Require council certification that management plans achieve the specified outcomes and are not simply submitted for information	Planning
30	Tahua Partners Limited	Oppose		Withdraw the project in its current form	
30	Tahua Partners Limited	Oppose	Transport - reconfigured site access	Modify the project to address permanent elimination of vehicle access for 106 Great South Road Takanini from Manuia Road	Transport Social
30	Tahua Partners Limited	Oppose	Transport - reconfigured site access	Vehicle access from Great South Road to site at 106 Great South Road, Takanini would create pedestrian amenity and traffic effects	Transport Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
30	Tahua Partners Limited	Oppose	Social effects	Closure of business at 106 Great South Road Takanini would create adverse social effects	Social
30	Tahua Partners Limited	Oppose	Economic effects	Closure of business at 106 Great South Road Takanini would create adverse economic effects	Social
30	Tahua Partners Limited	Oppose	Construction - traffic	Construction-related effects will have adversely affect the community including traffic	Transport Social
30	Tahua Partners Limited	Oppose	Construction - access and wayfinding	Construction-related effects will have adversely affect the community including access and wayfinding	Transport
30	Tahua Partners Limited	Oppose	Construction - noise and vibration	Construction-related effects will have adversely affect the community including noise and vibration	Noise and Vibration Social
30	Tahua Partners Limited	Oppose	Construction - dust	Construction-related effects will have adversely affect the community including dust	Social
30	Tahua Partners Limited	Oppose	Lapse period	Lapse period of 15 years instead of 5 years creates uncertainty for community as to whether project will progress	Social
30	Tahua Partners Limited	Oppose		Submitter seeks any alternative, further, or consequential relief to address all the concerns raised in their submission	
31	Vertex Lubricants	Oppose	Alternatives	Decline the NoR. Keep all roads open by tunnelling or bridging.	Geotech
31	Vertex Lubricants	Oppose	Inadequate consideration of alternatives	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as loss of businesses	Social
31	Vertex Lubricants	Oppose	Construction - transport and freight	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as construction effects on transport, including freight movements	Social Transport
31	Vertex Lubricants	Oppose	Transport and freight	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as long term operation effects on transport, especially for freight movements	Social Transport
31	Vertex Lubricants	Oppose	Transport - parking reduction	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as reduced on-street and on-site parking	Social Transport
31	Vertex Lubricants	Oppose	Transport - reduced property access	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as reduced access to property	Devt Eng Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
31	Vertex Lubricants	Oppose	Construction - noise and vibration	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as noise and vibration effects during construction	Noise and Vibration Social
31	Vertex Lubricants	Oppose	Construction - operational	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as operational and economic effects during construction	Social
31	Vertex Lubricants	Oppose	Detailed plans	If the option of raising the road (i.e. road over rail) is preferred, then the proposals by the applicant to include conditions and detailed plans are supported, including: - a Stakeholder and Community Engagement Plan - a Development Response Plan (DRP) - a Community Health and Wellbeing Strategy - a Property Management Strategy - detailed design and construction planning	Geotech Social
31	Vertex Lubricants	Oppose	Management plans	If the option of raising the road (i.e. road over rail) is preferred, then the proposals by the applicant to include conditions regarding the following are supported: - an Urban Design and Landscape Management Plan - a Construction Traffic Management Plan - a Construction Noise and Vibration Management Plan	Social Transport
32	Durmast Holdings Ltd	Oppose	Transport	Decline the NoR. Closing access to Great South Road from Spartan Road and Manuroa Road, will increase traffic congestion, incidents and accidents.	Transport
32	Durmast Holdings Ltd	Oppose	Minimise area	If Manuia Road is the only location for a crossing, then a much better engineered slimmer footprint should be proposed.	Transport
32	Durmast Holdings Ltd	Oppose	Transport	A better solution would be to maintain and widen the existing Manuroa Road access location using a construction solution similar to the proposed Taka Street and Walters Road upgrades.	Transport
32	Durmast Holdings Ltd	Oppose	Economic loss	If the designations are not amended to avoid issues raised by the submitter, the submitter seeks discussions regarding compensation.	Social
33	KiwiRail Holdings Limited	Support	Transport	Supports the NoR as it will improve efficient and safety on the rail corridor.	Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
33	KiwiRail Holdings Limited	Support	Transport	Supports the NoR. Removal of level crossings is a key component of planned future investment outlined in the Strategic Rail Programme developed by KiwiRail and Auckland Transport	Transport
33	KiwiRail Holdings Limited	Support	Engagement with Submitter sought	Further engagement is sought with KiwiRail (the Requiring Authority for the earlier designations) as the project progresses. Bridge design will require particular attention. This future work will need to reference (and incorporate the KiwiRail Engineering Principles and Standards applying at the time. Future construction methodologies will also need to prioritise the need to limit the operational impacts on the NIMT.	Transport
33	KiwiRail Holdings Limited	Support	Transport (rail)	KiwiRail requires further detail prior to Kiwirail granting any approval as the Requiring Authority pursuant to Section 177 of the Resource Management Act 1991. This detail includes: - that growing the capacity and resilience of the NIMT through the provision of additional tracks (as outlined in the Strategic Rail Programme) is acknowledged and accommodated as far as possible in the development and design of the project.	Transport
33	KiwiRail Holdings Limited	Support	Transport (rail)	KiwiRail requires further detail prior to Kiwirail granting any approval as the Requiring Authority pursuant to Section 177 of the Resource Management Act 1991. This detail includes: - that NoR alignments which restrict or challenge emerging rail corridor options are addressed in advance of starting detailed design.	Transport
33	KiwiRail Holdings Limited	Support	Transport (rail)	KiwiRail requires further detail prior to Kiwirail granting any approval as the Requiring Authority pursuant to Section 177 of the Resource Management Act 1991. This detail includes: - evidence that Kiwi rail's Engineering Principles and Standards are met and incorporated.	Transport
33	KiwiRail Holdings Limited	Support	Transport	KiwiRail requires further detail prior to Kiwirail granting any approval as the Requiring Authority pursuant to Section 177 of the Resource Management Act 1991. This detail includes: - construction methodologies that reduce the need for, or duration of, any proposed full closure of the NIMT.	Devt Eng Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
33	KiwiRail Holdings Limited	Support	Transport Geotechnical	KiwiRail requires further detail prior to KiwiRail granting any approval as the Requiring Authority pursuant to Section 177 of the Resource Management Act 1991. This detail includes: - that all safety and operational concerns arising from structures over and adjacent to the rail corridor are addressed, including but not limited to ongoing effects on corridor stability.	Transport Social
33	KiwiRail Holdings Limited	Support	Transport (rail)	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - that NoR1 allows for an increase of track capacity however potentially limits provision of maintenance access to improve resilience.	Transport
33	KiwiRail Holdings Limited	Support	Transport	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - that all NoR1 bridge structure abutments and pier locations will need to be confirmed in future design.	Transport
33	KiwiRail Holdings Limited	Support	Transport	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - that the proposed location of the cul de sac at the end of Takanui [Takanini?] Road (south west corner) is very close to the existing mains so rail capacity implications need to be worked through with KiwiRail	Transport
33	KiwiRail Holdings Limited	Support	Transport	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - identification of opportunities for future connection to the platform - station access from the bridge at Taka Street and from the footbridge at Manuroa Road needs to be well considered in detailed design.	Devt Eng

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
33	KiwiRail Holdings Limited	Support	Transport	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - the proposed ramps at Manuroa and Spartan Roads need careful attention due to proximity to the rail corridor and overhead electric systems.	Transport
33	KiwiRail Holdings Limited	Support	NoR effects - flooding	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - future swale and overland flow solutions will require a co-ordinated approach by Auckland Transport and KiwiRail.	Stormwater
33	KiwiRail Holdings Limited	Support	NoR effects - flooding	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - at Spartan Road the major drainage swale/overland flow path in the rail corridor may conflict with footbridge. This needs to be considered in future design work including the reprovision of drainage infrastructure to prevent overland flow into the rail corridor.	Stormwater
33	KiwiRail Holdings Limited	Support	Transport	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - the location of the footbridge at Spartan Road needs to accommodate the potential capacity enhancement on the eastern side of the existing tracks.	Transport
33	KiwiRail Holdings Limited	Support	Transport	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - provision required for on-track access from the eastern side [of Spartan Road?].	Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
34	Auckland Council Parks and Community Facilities	Oppose	Parks	Avoid all direct effects on 24R Taka Street Takanini so that the property's public open space features and the submitter's assets are preserved and maintained, and/or fully reinstated to the same or better condition than they were prior to any works associated withe proposed designation. If the extent of effects of NoR 1 on 24R Taka Street cannot be avoided, then the Requiring Authority must mitigate or remedy the loss of public open space caused by NoR1 so that the same or more public open space is provided in a strategic location that is in proximity to the area taken by NoR 1.	Parks Social
34	Auckland Council Parks and Community Facilities	Oppose	Parks	Avoid all direct effects on 2R Challen Close, Takanini so that the property's public open space features and the submitter's assets are preserved and maintained, and/or fully reinstated to the same or better condition than they were prior to any works associated withe proposed designation.	Parks
34	Auckland Council Parks and Community Facilities	Oppose	Parks	Avoid all direct effects on 8 Takanini Road, Takanini so that the property's public open space features and the submitter's assets are preserved and maintained, and/or fully reinstated to the same or better condition than they were prior to any works associated withe proposed designation.	Parks
34	Auckland Council Parks and Community Facilities	Oppose	Parks	Avoid all indirect effects on 103R Manuroa Road, Takanini so that the property's public open space features and the submitter's assets are preserved and maintained, and/or fully reinstated to the same or better condition than they were prior to any works associated withe proposed designation.	Parks
34	Auckland Council Parks and Community Facilities	Oppose	Parks	Avoid all indirect effects on 12 Challen Close Takanini so that the property's public open space features and the submitter's assets are preserved and maintained, and/or fully reinstated to the same or better condition than they were prior to any works associated withe proposed designation.	Parks
34	Auckland Council Parks and Community Facilities	Oppose	Parks	Avoid all indirect effects on 16R Reding Street Takanini so that the property's public open space features and the submitter's assets are preserved and maintained, and/or fully reinstated to the same or better condition than they were prior to any works associated withe proposed designation.	Parks

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
34	Auckland Council Parks and Community Facilities	Oppose	Parks	Avoid all indirect effects on 2 Popes Road Takanini so that the property's public open space features and the submitter's assets are preserved and maintained, and/or fully reinstated to the same or better condition than they were prior to any works associated withe proposed designation.	Parks
34	Auckland Council Parks and Community Facilities	Oppose	Parks	Avoid all indirect effects on 20W Challen Close Takanini so that the property's public open space features and the submitter's assets are preserved and maintained, and/or fully reinstated to the same or better condition than they were prior to any works associated withe proposed designation.	Parks
34	Auckland Council Parks and Community Facilities	Oppose	Parks	Avoid all indirect effects on 354F Porchester Road Takanini so that the property's public open space features and the submitter's assets are preserved and maintained, and/or fully reinstated to the same or better condition than they were prior to any works associated withe proposed designation.	Parks
34	Auckland Council Parks and Community Facilities	Oppose	Parks	Avoid all indirect effects on 35R Spartan Road Takanini so that the property's public open space features and the submitter's assets are preserved and maintained, and/or fully reinstated to the same or better condition than they were prior to any works associated withe proposed designation.	Parks
34	Auckland Council Parks and Community Facilities	Oppose	Parks	Avoid all indirect effects on 48R Rangi Road Takanini so that the property's public open space features and the submitter's assets are preserved and maintained, and/or fully reinstated to the same or better condition than they were prior to any works associated withe proposed designation.	Parks
34	Auckland Council Parks and Community Facilities	Oppose	Parks	Avoid all indirect effects on 50R Rangi Road Takanini so that the property's public open space features and the submitter's assets are preserved and maintained, and/or fully reinstated to the same or better condition than they were prior to any works associated withe proposed designation.	Parks

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
34	Auckland Council Parks and Community Facilities	Oppose	Parks	Avoid all indirect effects on 8 Takanini Road Takanini so that the property's public open space features and the submitter's assets are preserved and maintained, and/or fully reinstated to the same or better condition than they were prior to any works associated withe proposed designation.	Parks
34	Auckland Council Parks and Community Facilities	Oppose	Parks	Avoid all indirect effects on 8R Scotts Field Drive Takanini so that the property's public open space features and the submitter's assets are preserved and maintained, and/or fully reinstated to the same or better condition than they were prior to any works associated withe proposed designation.	Parks
35	Withdrawn				
36	Ministry of Education		Transport - active modes	Supports in principle the proposed walking and cycling facilities proposed in the NoR application. Improved active mode connectivity is essential to provide existing and future communities with a sustainable means of accessing education facilities in the Takanini area.	Social
36	Ministry of Education		Management plans - stakeholder and community engagement	Include the Ministry of Education as the primary contact for schools in the Stakeholder and Community Engagement Management Plan (SCEMP). Specific engagement is required to manage construction effects on schools.	Social
36	Ministry of Education		Condition consistency with other Te Tupu Ngatahi conditions.	Make amendments to conditions to ensure consistency with the changes made to the Te Tupu Ngatahi Warkworth NoR conditions as included in the Strategic Planning and Conditions Rebuttal Evidence prior to the Council hearing. This includes the requirement that at least 6 month prior to construction, the Requiring Authority shall identify a list of stakeholders and properties and identify methods to engage with stakeholders and submit this record with any Outline Plan of Works for the relevant stage of work. The inclusion of a new condition that addresses this, is consistent with other conditions agreed through Te Tupu Ngatahi designations.	Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
36	Ministry of Education		Management plans - noise and vibration	Amend Conditions 21 and 21 relating to the Construction Noise and Vibration Management Plan (CNVMP) to make specific reference to education facilities to ensure they are taken into consideration as part of the development of this plan as a key stakeholder. The submitter also requests that any construction activities that could be expected to significantly exceed the permitted noise and/or vibration levels are undertaken outside of study and exam periods to minimise disruptions to students' learning.	Noise and Vibration Social
36	Ministry of Education		Management plans - traffic	Amend Condition 18 relating to the Construction Traffic Management Plan (CTMP) to make specific reference to education facilities to address the estimated numbers, frequencies, routes and timing of traffic movements, including any specific non-working or non-movement hours (for example on roads servicing education facilities during pick-up and drop-off times) to manage vehicular and pedestrian traffic near educational facilities or to manage traffic congestion.	Devt Eng Social
36	Ministry of Education		Acronym consistency with other Te Tupu Ngatahi conditions.	Use acronyms and terms in the NoRs that are consistent with those agreed through other Te Tupu Ngatahi NoRs. As these terms are continuously evolving through hearings on NoRs, a summary of the terms supported is: - Education facility - Stakeholder	Social
36	Ministry of Education			Submitter seeks such other consequential amendments to the NoRs that may be necessary to give effect to the relief sought in their submission.	
37	Takanini Village Limited and Tonea Properties (NZ) Limited			Withdraw the NoR	

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Environmental effects	If the NoR is not withdrawn, modify the NoR or make it subject to conditions to address all of the concerns raised in the submission. The NoR will impact on Spartan Road, Manuia Road, Manuroa Road and Taka Street and result in cumulative adverse effects on the Takanini Town Centre.	Social Urban Design
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Alternatives	Inadequate consideration of alternative sites, routes and methods for the project.	Geotech Urban Design Transport
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Economic Social	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example reduced access to a large number of properties which front the project areas may result in a number of businesses considered important to the community being lost.	Social
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Transport	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example significant traffic adverse effects will be created with disjointed connectivity and disruption of the existing urban form with a reduced amount of east-west connectivity across Takanini.	Transport
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Pedestrian bridges	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example creation of unsafe pedestrian crossings (i.e. Spartan Road and Manuroa Road) which are not suitable for all people to utilise.	Transport Social
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Parks	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example loss of existing open space for the community (i.e. Takaanini Reserve).	Parks Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
37	Takanini Village Limited and Tonea Properties (NZ) Limited		CPTED and undercrofts	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example CPTED (Crime Prevention Through Environmental Design) issues will be created through the proposed undercroft spaces (i.e. spaces under the bridges e.g. at Taka Street) as there is potential for these areas to become unsafe walking environments, poorly lit, be compromised by obscure wayfinding and have low amenity values.	Social Urban design
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Transport - freight routes	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example inadequate consideration has been given to the effects of the alternative freight movement route and the closure of the current over-dimension freight route along Manuroa Road.	Transport Social
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Transport - routes during construction	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example inadequate consideration for suitable alternative routes to facilitate traffic, pedestrian, and cyclist movement across Takanini during the construction period of the grade separated areas.	Devt Eng
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Visual Landscape	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example a large number of residential and commercial properties will be subject to significant adverse landscape and visual effects.	Landscape Urban design
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Extent of NoR and effects	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. The Requiring Authority has failed to undertake a proper consideration of alternatives that use a lesser extent of land and/or have lesser environmental effects than its preferred option.	Transport Landscape Urban design
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is insufficient assessment as to how an underpass option compares to the Requiring Authority's preferred option.	Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is insufficient assessment of effects on the environment resulting from the works enabled by the Requiring Authority's preferred option and how it could be reduced by pursuing an alternative method (i.e. an underpass).	Transport
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Underpass costings	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. The adequacy of alternative options was not considered in sufficient detail in supporting reports (including the absence of an appropriate comparative costing assessment).	Transport
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Assessment of necessity of NoR	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is inadequate assessment to support a conclusion that the entire extent of the designation was "reasonably necessary", particularly in relation to the shortcomings in the evaluation of alternatives and the failure to properly assess effects on Takanini Town Centre and other surrounding properties and businesses.	Transport
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Assessment of environmental effects of alternative routes or methods	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is an absence of assessment as to whether an alternative route or method would result in reduced environmental effects, particularly for Takanini Town Centre and its surrounding sites.	Landscape Urban Design
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. An underpass option is not suppositious or hypothetical and ought to have been adequately considered.	
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Noise and Vibration	Construction noise and vibration effects over long durations, and which involve night-time and long weekend works, are unreasonable for affected landowners.	Noise and Vibration Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Lapse period	Lapse period of 15 years is inappropriate. There is lack of supporting evidence, the long lapse period creates uncertainty, and there is a lack of funding for the works and an absence of any proper assessment or commitment to a works timeframe. The Requiring Authority has no secured funding or interest in much of the designated route.	Social
37	Takanini Village Limited and Tonea Properties (NZ) Limited		Impact on Takanini Town Centre	Conditions should be imposed to ensure the minimum practicable impact on Takanini Town Centre especially in terms of access, visual and landscape amenity, geotechnical risks, noise and vibration effects and impact on existing service and operations.	Noise and Vibration Devt Eng Social
37	Takanini Village Limited and Tonea Properties (NZ) Limited			Submitter seeks such alternative, further or consequential relief as may be required to address the concerns raised in their submission.	
38	Sunlight Holdings Limited and South Auckland Marine Limited			Withdraw the NoR	
38	Sunlight Holdings Limited and South Auckland Marine Limited		Environmental effects	If the NoR is not withdrawn, modify the NoR or make it subject to conditions to address all of the concerns raised in the submission. The NoR will impact on Spartan Road, Manuia Road, Manuroa Road and Taka Street and result in cumulative adverse effects on the Takanini Town Centre.	Social
38	Sunlight Holdings Limited and South Auckland Marine Limited		Alternatives	Inadequate consideration of alternative sites, routes and methods for the project.	Geotech Urban Design Transport
38	Sunlight Holdings Limited and South Auckland Marine Limited		Economic Social	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example reduced access to a large number of properties which front the project areas may result in a number of businesses considered important to the community being lost.	Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
38	Sunlight Holdings Limited and South Auckland Marine Limited		Transport	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example significant traffic adverse effects will be created with disjointed connectivity and disruption of the existing urban form with a reduced amount of east-west connectivity across Takanini.	Transport
38	Sunlight Holdings Limited and South Auckland Marine Limited		Pedestrian bridges	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example creation of unsafe pedestrian crossings (i.e. Spartan Road and Manuroa Road) which are not suitable for all people to utilise.	Transport Social
38	Sunlight Holdings Limited and South Auckland Marine Limited		Parks	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example loss of existing open space for the community (i.e. Takaanini Reserve).	Parks Social
38	Sunlight Holdings Limited and South Auckland Marine Limited		CPTED and undercrofts	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example CPTED (Crime Prevention Through Environmental Design) issues will be created through the proposed undercroft spaces (i.e. spaces under the bridges e.g. at Taka Street) as there is potential for these areas to become unsafe walking environments, poorly lit, be compromised by obscure wayfinding and have low amenity values.	Social Urban Design
38	Sunlight Holdings Limited and South Auckland Marine Limited		Transport - freight routes	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example inadequate consideration has been given to the effects of the alternative freight movement route and the closure of the current over-dimension freight route along Manuroa Road.	Transport Social
38	Sunlight Holdings Limited and South Auckland Marine Limited		Transport - routes during construction	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example inadequate consideration for suitable alternative routes to facilitate traffic, pedestrian, and cyclist movement across Takanini during the construction period of the grade separated areas.	Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
38	Sunlight Holdings Limited and South Auckland Marine Limited		Visual Landscape	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example a large number of residential and commercial properties will be subject to significant adverse landscape and visual effects.	Landscape urban design
38	Sunlight Holdings Limited and South Auckland Marine Limited		Extent of NoR and effects	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. The Requiring Authority has failed to undertake a proper consideration of alternatives that use a lesser extent of land and/or have lesser environmental effects than its preferred option.	Transport Landscape Urban Design
38	Sunlight Holdings Limited and South Auckland Marine Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is insufficient assessment as to how an underpass option compares to the Requiring Authority's preferred option.	Transport
38	Sunlight Holdings Limited and South Auckland Marine Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is insufficient assessment of effects on the environment resulting from the works enabled by the Requiring Authority's preferred option and how it could be reduced by pursuing an alternative method (i.e. an underpass).	Transport
38	Sunlight Holdings Limited and South Auckland Marine Limited		Underpass costings	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. The adequacy of alternative options was not considered in sufficient detail in supporting reports (including the absence of an appropriate comparative costing assessment).	Transport
38	Sunlight Holdings Limited and South Auckland Marine Limited		Assessment of necessity of NoR	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is inadequate assessment to support a conclusion that the entire extent of the designation was "reasonably necessary", particularly in relation to the shortcomings in the evaluation of alternatives and the failure to properly assess effects on Takanini Town Centre and other surrounding properties and businesses.	Landscape Urban Design

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
38	Sunlight Holdings Limited and South Auckland Marine Limited		Assessment of environmental effects of alternative routes or methods	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is an absence of assessment as to whether an alternative route or method would result in reduced environmental effects, particularly for Takanini Town Centre and its surrounding sites.	Landscape Urban Design
38	Sunlight Holdings Limited and South Auckland Marine Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. An underpass option is not suppositious or hypothetical and ought to have been adequately considered.	Transport
38	Sunlight Holdings Limited and South Auckland Marine Limited		Noise and Vibration	Construction noise and vibration effects over long durations, and which involve night-time and long weekend works, are unreasonable for affected landowners.	Noise and Vibration Social
38	Sunlight Holdings Limited and South Auckland Marine Limited		Lapse period	Lapse period of 15 years is inappropriate. There is lack of supporting evidence, the long lapse period creates uncertainty, and there is a lack of funding for the works and an absence of any proper assessment or commitment to a works timeframe. The Requiring Authority has no secured funding or interest in much of the designated route.	Social
38	Sunlight Holdings Limited and South Auckland Marine Limited		Impact on Takanini Town Centre	Conditions should be imposed to ensure the minimum practicable impact on Takanini Town Centre especially in terms of access, visual and landscape amenity, geotechnical risks, noise and vibration effects and impact on existing service and operations.	Noise and Vibration Devt Eng Social Urban design
38	Sunlight Holdings Limited and South Auckland Marine Limited			Submitter seeks such alternative, further or consequential relief as may be required to address the concerns raised in their submission.	
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited			Withdraw the NoR	

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Environmental effects	If the NoR is not withdrawn, modify the NoR or make it subject to conditions to address all of the concerns raised in the submission. The NoR will impact on Spartan Road, Manuia Road, Manuroa Road and Taka Street and result in cumulative adverse effects on the Takanini Town Centre.	Social
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Alternatives	Inadequate consideration of alternative sites, routes and methods for the project.	Geotech Transport
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Economic Social	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example reduced access to a large number of properties which front the project areas may result in a number of businesses considered important to the community being lost.	Social
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Transport	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example significant traffic adverse effects will be created with disjointed connectivity and disruption of the existing urban form with a reduced amount of east-west connectivity across Takanini.	Transport
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Pedestrian bridges	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example creation of unsafe pedestrian crossings (i.e. Spartan Road and Manuroa Road) which are not suitable for all people to utilise.	Transport Social
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Parks	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example loss of existing open space for the community (i.e. Takaanini Reserve).	Parks Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		CPTED and undercrofts	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example CPTED (Crime Prevention Through Environmental Design) issues will be created through the proposed undercroft spaces (i.e. spaces under the bridges e.g. at Taka Street) as there is potential for these areas to become unsafe walking environments, poorly lit, be compromised by obscure wayfinding and have low amenity values.	Social Urban Design
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Transport - freight routes	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example inadequate consideration has been given to the effects of the alternative freight movement route and the closure of the current over-dimension freight route along Manuroa Road.	Transport Social
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Transport - routes during construction	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example inadequate consideration for suitable alternative routes to facilitate traffic, pedestrian, and cyclist movement across Takanini during the construction period of the grade separated areas.	Devt Eng
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Visual Landscape	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example a large number of residential and commercial properties will be subject to significant adverse landscape and visual effects.	Landscape Urban Design
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Extent of NoR and effects	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. The Requiring Authority has failed to undertake a proper consideration of alternatives that use a lesser extent of land and/or have lesser environmental effects than its preferred option.	Transport Landscape Urban Design
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is insufficient assessment as to how an underpass option compares to the Requiring Authority's preferred option.	Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is insufficient assessment of effects on the environment resulting from the works enabled by the Requiring Authority's preferred option and how it could be reduced by pursuing an alternative method (i.e. an underpass).	Urban Design
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Underpass costings	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. The adequacy of alternative options was not considered in sufficient detail in supporting reports (including the absence of an appropriate comparative costing assessment).	Transport
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Assessment of necessity of NoR	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is inadequate assessment to support a conclusion that the entire extent of the designation was "reasonably necessary", particularly in relation to the shortcomings in the evaluation of alternatives and the failure to properly assess effects on Takanini Town Centre and other surrounding properties and businesses.	Transport
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Assessment of environmental effects of alternative routes or methods	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is an absence of assessment as to whether an alternative route or method would result in reduced environmental effects, particularly for Takanini Town Centre and its surrounding sites.	Landscape Urban Design
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. An underpass option is not suppositious or hypothetical and ought to have been adequately considered.	Transport
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Noise and Vibration	Construction noise and vibration effects over long durations, and which involve night-time and long weekend works, are unreasonable for affected landowners.	Noise and Vibration Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Lapse period	Lapse period of 15 years is inappropriate. There is lack of supporting evidence, the long lapse period creates uncertainty, and there is a lack of funding for the works and an absence of any proper assessment or commitment to a works timeframe. The Requiring Authority has no secured funding or interest in much of the designated route.	Social
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Impact on Takanini Town Centre	Conditions should be imposed to ensure the minimum practicable impact on Takanini Town Centre especially in terms of access, visual and landscape amenity, geotechnical risks, noise and vibration effects and impact on existing service and operations.	Noise and Vibration Devt Eng Social Urban Design
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited			Submitter seeks such alternative, further or consequential relief as may be required to address the concerns raised in their submission.	
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.			Withdraw the NoR	
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Environmental effects	If the NoR is not withdrawn, modify the NoR or make it subject to conditions to address all of the concerns raised in the submission. The NoR will impact on Spartan Road, Manuia Road, Manuroa Road and Taka Street and result in cumulative adverse effects on the Takanini Town Centre.	Social
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Alternatives	Inadequate consideration of alternative sites, routes and methods for the project.	Geotech Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Economic Social	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example reduced access to a large number of properties which front the project areas may result in a number of businesses considered important to the community being lost.	Social
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Transport	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example significant traffic adverse effects will be created with disjointed connectivity and disruption of the existing urban form with a reduced amount of east-west connectivity across Takanini.	Transport
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Pedestrian bridges	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example creation of unsafe pedestrian crossings (i.e. Spartan Road and Manuroa Road) which are not suitable for all people to utilise.	Transport Social
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Parks	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example loss of existing open space for the community (i.e. Takaanini Reserve).	Parks Social
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		CPTED and undercrofts	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example CPTED (Crime Prevention Through Environmental Design) issues will be created through the proposed undercroft spaces (i.e. spaces under the bridges e.g. at Taka Street) as there is potential for these areas to become unsafe walking environments, poorly lit, be compromised by obscure wayfinding and have low amenity values.	Social Urban Design
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Transport - freight routes	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example inadequate consideration has been given to the effects of the alternative freight movement route and the closure of the current over-dimension freight route along Manuroa Road.	Transport Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Transport - routes during construction	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example inadequate consideration for suitable alternative routes to facilitate traffic, pedestrian, and cyclist movement across Takanini during the construction period of the grade separated areas.	Transport
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Visual Landscape	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example a large number of residential and commercial properties will be subject to significant adverse landscape and visual effects.	Landscape Urban Design
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Extent of NoR and effects	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. The Requiring Authority has failed to undertake a proper consideration of alternatives that use a lesser extent of land and/or have lesser environmental effects than its preferred option.	Transport Landscape Urban design
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is insufficient assessment as to how an underpass option compares to the Requiring Authority's preferred option.	Transport
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is insufficient assessment of effects on the environment resulting from the works enabled by the Requiring Authority's preferred option and how it could be reduced by pursuing an alternative method (i.e. an underpass).	Urban Design
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Underpass costings	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. The adequacy of alternative options was not considered in sufficient detail in supporting reports (including the absence of an appropriate comparative costing assessment).	Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Assessment of necessity of NoR	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is inadequate assessment to support a conclusion that the entire extent of the designation was "reasonably necessary", particularly in relation to the shortcomings in the evaluation of alternatives and the failure to properly assess effects on Takanini Town Centre and other surrounding properties and businesses.	Urban Design
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Assessment of environmental effects of alternative routes or methods	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is an absence of assessment as to whether an alternative route or method would result in reduced environmental effects, particularly for Takanini Town Centre and its surrounding sites.	Landscape Urban Design
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. An underpass option is not suppositious or hypothetical and ought to have been adequately considered.	Transport
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Noise and Vibration	Construction noise and vibration effects over long durations, and which involve night-time and long weekend works, are unreasonable for affected landowners.	Noise and Vibration Social
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Lapse period	Lapse period of 15 years is inappropriate. There is lack of supporting evidence, the long lapse period creates uncertainty, and there is a lack of funding for the works and an absence of any proper assessment or commitment to a works timeframe. The Requiring Authority has no secured funding or interest in much of the designated route.	Social
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Impact on Takanini Town Centre	Conditions should be imposed to ensure the minimum practicable impact on Takanini Town Centre especially in terms of access, visual and landscape amenity, geotechnical risks, noise and vibration effects and impact on existing service and operations.	Noise and Vibration Devt Eng Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.			Submitter seeks such alternative, further or consequential relief as may be required to address the concerns raised in their submission.	
41	Watercare Services Limited	Neutral	Network Utilities	Submitter seeks amendments to the NoR, including by way of conditions to ensure any adverse effects on Watercare's assets and operations are avoided, remedied or mitigated and to address the concerns set out in their submission.	Devt Eng Social
41	Watercare Services Limited	Neutral	Network Utilities	Add a new condition that requires the preparation of a "Network Utility Strategic Outcomes Plan" to the NoR to futureproof assets in consultation with network operators such as Watercare: **Network Utility Strategic Outcomes Plan (NUSOP)** (a) A NUSOP shall be prepared in the project feasibility stage or as early as practicable. (b) The objective of the NUSOP is to set out a strategic framework for asset resilience that includes consideration of growth, corridor protection, and asset renewals over time. (c) The NUSOP shall: (i) consider expected asset life of existing assets; (ii) consider expected asset capacity increases or changes; and (iii) demonstrate how city and national strategic plans are considered. (d) The NUSOP shall be prepared in consultation with the relevant Network Utility Operator(s) who have existing assets that are directly affected by the Project, including Watercare. (e) The NUSOP shall describe how strategic plans from the Network Utility Operators in relation to its assets have been addressed. (f) Any comments received from the Network Utility Operator shall be considered when finalising the NUSOP. (g) Any amendments to the NUSOP related to the assets of a Network Utility Operator shall be prepared in consultation with that asset owner.	Social Devt Eng

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
41	Watercare Services Limited	Neutral	Network Utilities	If the submitter's proposed Network Utility Strategic Outcomes Plan is not included in the NoR, the submitter seeks the following amendments (shown in underline) to the NUMP (Network Utilities Management Plan) condition in the NOR: (a) A NUMP shall be prepared after consultation with Network Utility Operator(s) including during the feasibility and detailed design phases, and prior to the lodgement of an Outline Plan of Works for a stage of construction ~~Start of Construction for a Stage of Work~~. ... (c) The NUMP shall be prepared in consultation with the relevant Network Utility Operator(s) who have existing assets that are directly affected by the Project and shall include any s177 consents required for works affecting prior Designations and Watercare 'Works Over Approvals". ... (h) The Requiring Authority shall consult with Network Utility Operators during the feasibility and detailed design phases to identify opportunities to enable, or not preclude, the development of new network utility facilities including access to power, water services and ducting within the Project. where practicable to do so. The consultation undertaken, opportunities considered, and whether or not they have been incorporated into the detailed design, shall be summarised in the Outline Plan or Plans prepared for the Project.	Social Devt Eng
41	Watercare Services Limited	Neutral	Network Utilities	Submitter seeks such further relief or other consequential amendments as considered appropriate and necessary to address the concerns raised in their submission.	Devt Eng
42	Z Energy Limited		Status of amendments to NoR at 162-168 Great South Road Takanini	Submission relates to revised NoR 1 layout (per Supporting Growth's letter to Auckland Council dated 9 November 2023) which now forms part of the NoR application and supersedes the lodged drawing layout.	Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
42	Z Energy Limited		Overlap with South FTN Z Energy Limited submission for same property	South FTN NoR also affects this property. Review Z Energy Limited's Takanini Crossings NoR 1 Submission and their South FTN noR submissions together.	Transport
42	Z Energy Limited			Decline the NoR but impose conditions if approved	
42	Z Energy Limited		Hazardous substances	Changes will result in significant adverse effects on Z Takanini at 166-168 Great South Road Takanini, including hazardous substances, and will almost certainly require a redesign of the site. Little to no evidence of these effects having been adequately assessed.	Social
42	Z Energy Limited		Traffic	Changes will result in significant adverse effects on Z Takanini at 166-168 Great South Road Takanini, including traffic, and will almost certainly require a redesign of the site. Little to no evidence of these effects having been adequately assessed.	Transport Devt Eng Social
42	Z Energy Limited		Stormwater	Changes will result in significant adverse effects on Z Takanini at 166-168 Great South Road Takanini, including stormwater, and will almost certainly require a redesign of the site. Little to no evidence of these effects having been adequately assessed.	Stormwater
42	Z Energy Limited		Landscaping	Changes will result in significant adverse effects on Z Takanini at 166-168 Great South Road Takanini, including landscaping, and will almost certainly require a redesign of the site. Little to no evidence of these effects having been adequately assessed.	Social
42	Z Energy Limited		Signage	Changes will result in significant adverse effects on Z Takaniniat 166-168 Great South Road Takanini, including signage, and will almost certainly require a redesign of the site. Little to no evidence of these effects having been adequately assessed.	Social
42	Z Energy Limited		Hazardous substances Traffic Stormwater Landscaping Signage Social Economic	Changes will result in significant adverse effects on Z Takanini at 166-168 Great South Road Takanini, including construction, and will almost certainly require a redesign of the site. Little to no evidence of these effects having been adequately assessed.	Transport Devt Eng Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
42	Z Energy Limited		Social	Changes will result in significant adverse effects on Z Takanini at 166-168 Great South Road Takanini, including social considerations, and will almost certainly require a redesign of the site. Little to no evidence of these effects having been adequately assessed.	Social
42	Z Energy Limited		Economic	Changes will result in significant adverse effects on Z Takanini at 166-168 Great South Road Takanini, including economic considerations, and will almost certainly require a redesign of the site. Little to no evidence of these effects having been adequately assessed.	Social
42	Z Energy Limited		Traffic	Taking of land from site at 166-168 Great South Road Takanini not reasonably necessary to achieve NoR purpose. Minimise encroachment of NoR into Z Takanini site at 166-168 Great South Road Takanini	Transport
42	Z Energy Limited		Traffic Social	NoR may require relocation of various features on the Z Takanini site at 166-168 Great South Road Takanini, which will affect site's operation, and are unlikely to be able to be accommodated within future boundaries.	Transport Social
42	Z Energy Limited		Economic effects	Construction period of 2-3 years creates uncertainty for business operation	Social
42	Z Energy Limited		Lapse period	Require a 5 year lapse period. Lapse period of 15 years creates uncertainty for business operation	Social
42	Z Energy Limited		Hazardous substances Traffic Stormwater Landscaping Signage Social Economic	Ensure permanent effects of NoR do not impact ability to safely operate Z Takanini site at 166-168 Great South Road Takanini	Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
42	Z Energy Limited		Hazardous substances Traffic Stormwater Landscaping Signage Social Economic	Ensure construction effects of NoR do not impact ability to safely operate Z Takanini site at 166-168 Great South Road Takanini	Transport Social
42	Z Energy Limited		Social	NoR conditions do not all require meaningful consultation with affected parties or establish outcomes to be achieved, which creates uncertainty for submitter	Social
42	Z Energy Limited		NoR review	Amend condition 4 (Designation Review) to state: *"The Requiring Authority shall as soon as practicable, and otherwise within 12 months of the Completion of Construction for each Stage of Project…"*	Social
42	Z Energy Limited		Management plans - stakeholders	Amend condition 8 (Management Plans) to require that the summary of comments received (required by condition (8(a)(iv)) demonstrates how, as far as practicable, the feedback from stakeholders has been incorporated.	Social
42	Z Energy Limited		Management plans - stakeholder and community engagement	Amend Condition 9 of the Stakeholder and Community Engagement Management Plan (SCEMP) to include the requirement to prepare a schedule of sites affected and site-specific matters identified in the schedule to be addressed through consultation (refer to the Joint Witness Statement (Planning- Condition) dated 20 September 2023 submitted to the Hearing Panel for the North West NoRs). It is assumed that Z Energy will be a stakeholder to be engaged and listed under 9(b)(i)(B).	Social
42	Z Energy Limited		Management plans - Landscape and Urban Design	Condition 12 (d) is supported -Urban and Landscape Design Management Plan (ULDMP)	Social
42	Z Energy Limited		Stakeholders	Amend Condition 14 (Existing property access) to also refer to occupiers and leaseholders. It is not always just a landowner who may be affected.	Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
42	Z Energy Limited		Management Plans - construction environment management	Amend 15 Construction Environment Management Plan (CEMP) to require affected parties to be engaged with to participate in the drafting of the CEMP or amend the Stakeholder and Community Engagement Management Plan (SCEMP) condition so this is clear.	Social
42	Z Energy Limited		Management plans - stakeholder and community engagement	Require affected parties to be engaged with in the drafting of the Construction Traffic Management Plan (CTMP) by amending condition 18, or amend the Stakeholder and Community Engagement Management Plan (SCEMP) condition so this is clear.	Social
42	Z Energy Limited		Engagement	Seeks engagement with requiring authority to discuss submission	Social
43	Kāinga Ora	Support in part		Supports NoR in part, subject to relief sought being granted	
43	Kāinga Ora	Support in part	Traffic - walking and cycling	Seeks that Requiring Authority consider other more direct and accessible walking and cycling crossing options for Spartan Road and Manuroa Road that maintain the existing directness and ease of use as the existing level crossings. Submitter seeks underpasses.	Transport Social Urban design
43	Kāinga Ora	Support in part	Traffic -walking and cycling Urban design Social	Seeks that Requiring Authority consider other more direct and accessible walking and cycling crossing options for Spartan Road and Manuroa Road that maintain the existing directness and ease of use as the existing level crossings. Submitter seeks underpasses, but if overpasses are continued to be preferred by requiring authority, accessible elevators and steps should be added to the design to improve the connections.	Transport Urban design
43	Kāinga Ora	Support in part	Traffic -walking and cycling Urban design Social	Justification sought from Requiring Authority why ramped walking and cycling bridges have been proposed in preference to options which would deliver a higher level of service for people cycling or on foot	Transport Urban design
43	Kāinga Ora	Support in part	Traffic - walking and cycling Urban design Social	Investigation required by the Requiring Authority with KiwiRail of more direct, well-designed and safe walking and cycling opportunities in and around Takanini Station that maximise pedestrian and cycle levels of service, particularly at Manuroa Road and Taka Street	Transport Devt Eng Urban design

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
43	Kāinga Ora	Support in part	Management plans - Traffic -walking and cycling Urban design Landscape	Amend condition 12 (Urban and Landscape Design Management Plan) to provide safer, more direct and more attractive connections for cycling and walking - see submission for specific wording	Transport Social Urban design
43	Kāinga Ora	Support in part	Lapse period	Amend condition 5 (Lapse) from 15 years to 10 years to provide greater certainty and for the project to benefit communities sooner	Social
43	Kāinga Ora	Support in part	Noise and Vibration	That operational noise levels for this project shall not exceed 55dB Laeq (24h) beyond the boundaries of the designation or, where exceeded at a sensitive receiver, mitigation is provided.	Noise and Vibration
43	Kāinga Ora	Support in part	Traffic Noise	Amend condition 25 - see submission for specific wording about operational noise	Noise and Vibration
43	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 27 - see submission for specific wording about operational noise	Noise and Vibration
43	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 28 - see submission for specific wording about operational noise	Noise and Vibration
43	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 29 - see submission for specific wording about operational noise	Noise and Vibration
43	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 31 - see submission for specific wording about operational noise	Noise and Vibration
43	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 32 - see submission for specific wording about operational noise	Noise and Vibration
43	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 33 - see submission for specific wording about operational noise	Noise and Vibration
43	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 34 - see submission for specific wording about operational noise	Noise and Vibration
43	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 35 - see submission for specific wording about operational noise	Noise and Vibration
43	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 36 - see submission for specific wording about operational noise	Noise and Vibration
43	Kāinga Ora	Support in part	Noise and Vibration	Amend Condition 37 - see submission for specific wording about operational noise	Noise and Vibration

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
43	Kāinga Ora	Support in part		Such further or other relief, or consequential or other amendments, as are considered appropriate and necessary to address the submitter's concerns. Any other alternative or consequential relief to give effect to the submission.	
44	DR Levene & JAG Kearns & MA Levene & DW Tibby and EA Levene (The Levene Foundation)	Support		Supports NoR subject to relief sought	
44	DR Levene & JAG Kearns & MA Levene & DW Tibby and EA Levene (The Levene Foundation)	Support	Timeframe	Seeks that council confirm the NOR 1 designation, and a timeframe for works to be undertaken with priority	Social
44	DR Levene & JAG Kearns & MA Levene & DW Tibby and EA Levene (The Levene Foundation)	Support	Conditions	Such other consequential amendments to the provisions of NoR 1 as may be necessary to give effect to the relief sought in this submission including conditions on the designation	
44	DR Levene & JAG Kearns & MA Levene & DW Tibby and EA Levene (The Levene Foundation)	Support	Engagement	Seeks meeting with requiring authority prior to any hearing	
45	Basil Kuriakose Portrush Lane and 6 Signatories		Public Works Act rights	Submission states that Portrush Lane residents understand they have no rights under the Public Works Act as Portrush Lane properties are not within the designated area.	Social
45	Basil Kuriakose Portrush Lane and 6 Signatories		Construction - noise	Submission states that submitters are aware they have no way of eliminating noise pollution in Portrush Lane as it is part of construction	Noise and Vibration
45	Basil Kuriakose Portrush Lane and 6 Signatories		Construction - dust	Submission states that submitters are aware they have no way of eliminating dust pollution in Portrush Lane as it is part of construction	Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
45	Basil Kuriakose Portrush Lane and 6 Signatories		Construction - Vibration	Concerned about heavy machinery and piling effects on the structural integrity of the land and dwellings at Portrush Lane. Already feel tremors when cargo trains pass.	Noise and Vibration
45	Basil Kuriakose Portrush Lane and 6 Signatories		Compensation for post construction cleaning	Compensation sought for water blasting etc of houses and roof tops after pollution has affected properties in Portrush Lane	Social
45	Basil Kuriakose Portrush Lane and 6 Signatories		Stormwater and mosquitoes	Clarity sought about blue triangle/pool on map and whether it is for water. Mosquito spraying sought.	Stormwater Social
45	Basil Kuriakose Portrush Lane and 6 Signatories		Traffic noise	Noisy road will devalue properties and land in Portrush Lane	Noise and Vibration Social
45	Basil Kuriakose Portrush Lane and 6 Signatories		Traffic increase and safety	Concerns around increased traffic and reduced safety on Oakleigh Avenue	Social
45	Basil Kuriakose Portrush Lane and 6 Signatories		Traffic lights	Install traffic lights at the end of Oakleigh Avenue to control entry either side of Manuroa Road	Transport
46	Takanini Rentors Limited	Oppose	Transport - Spartan Road	Oppose NoR. Do not want acquisition of land. Blocking access into Spartan Road.	Transport

Summary of Submissions NoR 2: Takaanini Level Crossing (TLC): Walters Road level crossing closure and new multi-modal bridge

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
1	Mead Trusts Holdings Ltd - Carters Takanini	Oppose	Economic loss	Seeks compensation	Social Transport
2	Ting-Chun Cho	Support	Transport - congestion	Supports new multi-modal bridges. Existing crossings are dangerous.	Social
2	Ting-Chun Cho	Support	Transport - safety	Supports new multi-modal bridges. Existing congestion is a problem.	Social
3	Takanini Business Association Inc	Oppose	Alternatives	Decline NoR. Provide an underpass instead of a bridge.	Geotech Transport
3	Takanini Business Association Inc	Oppose	Inadequate consideration of alternatives	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as loss of businesses	Transport Social
3	Takanini Business Association Inc	Oppose	Construction - transport and freight	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as construction effects on transport, including freight movements	Transport Social
3	Takanini Business Association Inc	Oppose	Transport and freight	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as long term operational effects on transport, especially for freight movements	Social Transport
3	Takanini Business Association Inc	Oppose	Transport - construction effects	Involve the Takanini Business Association in development of the Construction Traffic Management Plan and keep businesses informed of construction times and processes.	Social
3	Takanini Business Association Inc	Oppose	Transport - parking	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as reduced on-street and on-site parking	Social Transport
3	Takanini Business Association Inc	Oppose	Transport - reduced property access	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as reduced access to property	Devt Eng Social Transport
3	Takanini Business Association Inc	Oppose	Transport - reduced property access	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as reduced access to property. And particularly the key entry access point to the Takaanini Town Centre development at 30 Walters Road.	Devt Eng Social Transport
3	Takanini Business Association Inc	Oppose	Construction - noise and vibration	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as noise and vibration effects during construction	Noise and Vibration Social
3	Takanini Business Association Inc	Oppose	Construction - business operational effects	Assessment of alternatives is deficient and proposed bridges will create adverse effects on businesses and the community, such as operational and economic effects during construction	Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
3	Takanini Business Association Inc	Oppose	Detailed plans	If the option of raising the road (i.e. road over rail) is preferred, then the proposals by the applicant to include conditions and detailed plans are supported, including: - a Stakeholder and Community Engagement Plan - a Development Response Plan (DRP) - a Community Health and Wellbeing Strategy - a Property Management Strategy - detailed design and construction planning	Geotech Social
3	Takanini Business Association Inc	Oppose	Management plans	If the option of raising the road (i.e. road over rail) is preferred, then the proposals by the applicant to include conditions regarding the following are supported: - an Urban Design and Landscape Management Plan - a Construction Traffic Management Plan - a Construction Noise and Vibration Management Plan	Noise and Vibration Social
4	Krittibas Dasgupta	Oppose		Opposes the NoR.	
4	Krittibas Dasgupta	Oppose	Lack of detailed information	More detailed drawings and information about the Walters Road overpass should be provided to the community	Social
4	Krittibas Dasgupta	Oppose	Traffic - congestion reduction information	Need clear evidence including modelling data that the traffic situation on the roads will not worsen a s a result of the proposed changes	Transport
4	Krittibas Dasgupta	Oppose	Lack of detailed design - transport effects	Seeks confirmation that the overpass can be contained within the NoR. Extending the overpass will adversely affect residents on Arion Road, south of Walters Road, and Phar Lap Crescent. Need clear details of height and length.	Transport
4	Krittibas Dasgupta	Oppose	Crime and community safety	Overpass will create safety issues beneath the bridge such as graffiti, vandalism and other public nuisances. This will discourage people from using these areas.	Social Urban Design
4	Krittibas Dasgupta	Oppose	Community safety and cohesion - design	Incorporate community safety into the design of the overpass.	Social Urban Design
4	Krittibas Dasgupta	Oppose	Community safety and cohesion - operation Urban design	Provide detailed plans for residents on how spaces beneath the bridge will be managed, monitored and maintained to prevent them from detracting from neighbourhood quality of life .E.g. environmental design to promote natural surveillance, adequate lighting, and regular patrolling by security or community patrols to mitigate these risks.	Social Urban design
4	Krittibas Dasgupta	Oppose	Landscape Urban design	Any new construction must be visually and functionally consistent with the surrounding area.	Landscape Urban Design

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
4	Krittibas Dasgupta	Oppose	Construction - noise	Construction-related effects including noise will have adversely affect the quality of life of the community including noise. Certain activities are scheduled to take place on long weekends or at night to accommodate the line block needed by the railway network.	Noise and Vibration Social
4	Krittibas Dasgupta	Oppose	Construction - noise	Construction-related effects including noise will have adversely affect the long term health and wellbeing of the community.	Noise and Vibration Social
4	Krittibas Dasgupta	Oppose	Construction - dust	Construction-related effects including dust will have adversely affect the quality of life of the community including noise. Certain activities are scheduled to take place on long weekends or at night to accommodate the line block needed by the railway network.	Noise and Vibration Social
4	Krittibas Dasgupta	Oppose	Construction - dust	Construction-related effects including dust will have adversely affect the long term health and wellbeing of the community.	Social
4	Krittibas Dasgupta	Oppose	Flooding	Concerned about unanticipated effects of construction and landscape modification on flood behaviour, and how residential properties will be affected by risk of floodwaters.	Stormwater
5	Carter Building Supplies	Oppose	Site operation	Seeks removal of NoR from 12 Walters Road so business operation on that site is not constrained.	Social Transport
5	Carter Building Supplies	Oppose	Transport - reconfigured site access	Ensure easy site access to 12 Walters Road	Social Transport
6	Re-allocated to NoR 1				
7	Telecommunications Submitters		Network utilities - telecommunication providers	Oppose the NoR unless existing and potential future telecommunications infrastructure in the project corridor is adequately addressed as requested in the submission.	Network Utilities
7	Telecommunications Submitters		Network utilities	Seeks the following amendment (shown in underline) to the NUMP (Network Utilities Management Plan) condition in the NOR: (This is a further amendment to conditions agreed with requiring authorities in the Airport to Botany and Northwest Transport projects, which have not been carried through to this NoR) "(d) the development of the NUMP shall consider opportunities to co-ordinate future work programmes with other Network Utility Operator(s) <u>during the further project stages including detailed design</u> where practicable."	Devt Eng Social
7	Telecommunications Submitters		Network utilities	Retain the Land Integration Process (LIP) condition.	Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
8	Van Den Brink 254 Limited	Support	Construction effects	Supports the NoR as long as adverse effects of construction are mitigated for 1 Tironui Road, 5 Tironui Road, and 254 Great South Road Takanini	Devt Eng Social
8	Van Den Brink 254 Limited	Support	Stakeholder and community engagement	Confirm Condition 9 Stakeholder Communication and Engagement Plan (SCEMP) to ensure that stakeholders , including directly adjacent landowners like the submitter (at 1 Tironui Road, 5 Tironui Road, and 254 Great South Road Takanini), will be engaged and consulted throughout the designation process.	Social
8	Van Den Brink 254 Limited	Support	Management plans - construction	Confirm Condition 15 Construction Environment Management Plan (CEMP) to manage adverse construction effects on the environment including effects on the submitter's land at 1 Tironui Road, 5 Tironui Road, and 254 Great South Road Takanini.	Devt Eng
8	Van Den Brink 254 Limited	Support	Management plans - construction complaints	Confirm Condition 16 Complaints Register	Social
8	Van Den Brink 254 Limited	Support	Management plans - construction traffic	Confirm Condition 18 Construction Traffic Management Plan (CTMP) to manage adverse heavy vehicle construction effects in and around the submitter's land at 1 Tironui Road, 5 Tironui Road, and 254 Great South Road Takanini, as well as managing public traffic through and around the site during works, which may affect the operation of the Walters Road / Great South Road roundabout and access to the submitter's land by staff and customers.	Transport
8	Van Den Brink 254 Limited	Support	Conditions - construction noise	Confirm Condition 19 (Construction Noise Standards). Condition critical to ensure that noise and vibration effects are sufficiently mitigated on adjoining properties, including the submitter's land at 1 Tironui Road, 5 Tironui Road, and 254 Great South Road Takanini, to avoid damage to property and minimise disturbance to business operation during works.	Noise and Vibration Social
8	Van Den Brink 254 Limited	Support	Conditions - construction vibration	Confirm Condition 20 (Construction Vibration Standards). Condition critical to ensure that noise and vibration effects are sufficiently mitigated on adjoining properties, including the submitter's land at 1 Tironui Road, 5 Tironui Road, and 254 Great South Road Takanini, to avoid damage to property and minimise disturbance to business operation during works.	Noise and Vibration Social
8	Van Den Brink 254 Limited	Support	Conditions - construction noise and vibration	Confirm Condition 21 (Construction Noise and Vibration Management Plan (CNVMP)). Condition critical to ensure that noise and vibration effects are sufficiently mitigated on adjoining properties, including the submitter's land at 1 Tironui Road, 5 Tironui Road, and 254 Great South Road Takanini, to avoid damage to property and minimise disturbance to business operation during works.	Noise and Vibration Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
8	Van Den Brink 254 Limited	Support	Conditions - noise and vibration	Confirm Condition 22 (Schedule to a CNVMP (Construction Noise and Vibration Management Plan)). Condition critical to ensure that noise and vibration effects are sufficiently mitigated on adjoining properties, including the submitter's land at 1 Tironui Road, 5 Tironui Road, and 254 Great South Road Takanini, to avoid damage to property and minimise disturbance to business operation during works.	Noise and Vibration Social
8	Van Den Brink 254 Limited	Support		Seeks any other consequential or alternative relief to address the matters raised by the submitter.	
8	Van Den Brink 254 Limited	Support	Construction effects - pedestrian site access	Maintain the pedestrian footpaths to the submitter's land at 1 Tironui Road, 5 Tironui Road, and 254 Great South Road Takanini during works	Devt Eng Social Transport
8	Van Den Brink 254 Limited	Support	Operational effects - pedestrian site access	Maintain the pedestrian footpaths to the submitter's land at 1 Tironui Road, 5 Tironui Road, and 254 Great South Road Takanini following works	Devt Eng Social Transport
9	Brian Hogan	Oppose		Opposes the NoR.	
9	Brian Hogan	Oppose	Underpass	Has not been proper and fair assessment of over pass versus underpass	Geotech Transport
9	Brian Hogan	Oppose	Inadequate consultation	Overpass option has been pre-determined, with little consultation.	Social
9	Brian Hogan	Oppose	Underpass -disruption	Underpass is less disruptive	Transport
9	Brian Hogan	Oppose	Underpass - visual	Underpass is less and better visually	Landscape Urban design
9	Brian Hogan	Oppose	Underpass	Underpass will take up a smaller footprint	Transport
9	Brian Hogan	Oppose	Underpass- mobility access	Underpass easier for mobility access	Social
9	Brian Hogan	Oppose	Professional plan	Professional plan needed to address NoR shortfalls	Social
10	Alda Investments Ltd	Oppose		Seeks that the NoR be withdrawn	
10	Alda Investments Ltd	Oppose	NoR extent	Eliminate the designation from 162-164 Porchester Road	Transport
10	Alda Investments Ltd	Oppose	Resource consent	NoR conflicts with a resource consent for which works have started at 164-166 Porchester Road (corner Walters Road). No mechanism proposed in NoR to address the resultant non compliance with approved land use consents.	Social
10	Alda Investments Ltd	Oppose	Resource consent	Requiring authority should provide approval under ss176 or 178 RMA if required to allow the construction of the 42 consented dwellings on 164-166 Porchester Road	Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
10	Alda Investments Ltd	Oppose	Construction effects - damage to buildings, including foundations	Ensure there is no damage to the buildings to be constructed at 164-166 Porchester Road, including demonstrating that the proposed designation works can proceed without undermining the foundations of the units. The buildings etc are in close proximity to the proposed designation boundary.	Geotech Noise and Vibration Social
10	Alda Investments Ltd	Oppose	Construction - noise	Ensure that noise levels received at the units to be constructed at 164-166 Porchester Road are reasonable. The adequacy of noise assessment is questionable because there is no consistency between NoR 2 and South FTN NoR 4 for volumes of traffic and design of this portion of Porchester and Walters Roads.	Noise and Vibration
10	Alda Investments Ltd	Oppose	Operational - noise	Ensure that noise levels received at the units to be constructed at 164-166 Porchester Road are reasonable. The adequacy of noise assessment is questionable because there is no consistency between NoR 2 and South FTN NoR 4 for volumes of traffic and design of this portion of Porchester and Walters Roads.	Noise and Vibration Social
10	Alda Investments Ltd	Oppose	Noise	Require mitigation for future road noise to be installed as the units are built at 164-166 Porchester Road to avoid unnecessary wastage of resources and retrofitting costs.	Noise and Vibration
10	Alda Investments Ltd	Oppose	Construction - noise	Provide sufficient information to ensure that noise received at the outdoor living spaces of the proposed units at 164-166 Porchester Road will maintain the useability of these spaces during construction. The adequacy of noise assessment is questionable because there is no consistency between NoR 2 and South FTN NoR 4 for volumes of traffic and design of this portion of Porchester and Walters Roads.	Noise and Vibration
10	Alda Investments Ltd	Oppose	Operational - noise	Provide sufficient information to ensure that noise received at the outdoor living spaces of the proposed units at 164-166 Porchester Road will maintain the useability of these spaces following completion of the road. The adequacy of noise assessment is questionable because there is no consistency between NoR 2 and South FTN NoR 4 for volumes of traffic and design of this portion of Porchester and Walters Roads.	Noise and Vibration
10	Alda Investments Ltd	Oppose	Construction - site access for emergency services for vulnerable residents	Secure access for residents of 164-166 Porchester Road (including by emergency services) during NoR construction	Devt Eng Social Transport
10	Alda Investments Ltd	Oppose	Operational - site access for emergency services for vulnerable residents	Secure access for residents of 164-166 Porchester Road (including by emergency services).	Devt Eng Social Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
10	Alda Investments Ltd	Oppose	Pedestrian access to site	Maintain pedestrian accessibility for future residents of 164-166 Porchester Road	Devt Eng Social Transport
10	Alda Investments Ltd	Oppose	Pedestrian safety	Provide a safe pedestrian environment on the upgraded roads adjacent to 164-166 Porchester Road	Devt Eng Social Transport
10	Alda Investments Ltd	Oppose	Construction - privacy and screening	Provide sufficient information so privacy and screening for units from the NoR works occurring directly adjacent to outdoor living spaces at 164-166 Porchester Road can be managed.	Social
10	Alda Investments Ltd	Oppose	Flooding Resident health and safety	Avoid flooding impacts on the buildings and carparking at 164-166 Porchester Road. The project should not enable any increase in flood hazard on the site. Health and safety of vulnerable residents needs to be assured.	Stormwater
10	Alda Investments Ltd	Oppose	Project necessity	Require an appropriate roading design that caters for realistic future demand. Unclear whether necessity for project takes reduced development zoning changes anticipated by Future Development Strategy (adopted Nov 2023 by Council) into account	Planning
10	Alda Investments Ltd	Oppose	Transport modelling	Require an appropriate roading design that caters for realistic future demand. Unclear whether traffic modelling volumes take reduced development zoning changes anticipated by Future Development Strategy (adopted Nov 2023 by Council) into account	Transport
10	Alda Investments Ltd	Oppose	Transport - conflicting design responses	Provide certainty for landowners about the Porchester Road/Walters Road intersection. NoR2 and South FTN NoR 4 provide inconsistent design responses fronting 166 Porchester Road. NoR 2 and the resource consent for 164-166 Porchester Road propose the signalisation of the Porchester/Walters Road intersection. South FTN NoR 4 proposes a roundabout.	Transport
10	Alda Investments Ltd	Oppose	Traffic - conflicting traffic volume information	Provide certainty for landowners about the volumes of traffic for Porchester Road and Walters Road. NoR2 and South FTN NoR 4 have different factual starting points for traffic volume prediction.	Transport
10	Alda Investments Ltd	Oppose	Economic	Require an appropriate roading design that recognises the value of existing investment	Transport
10	Alda Investments Ltd	Oppose	NoR extent	Minimise intrusion of the NoR on private land	Transport
10	Alda Investments Ltd	Oppose	Conditions - management plans certification	Require management plans to be certified. Each management plan should contain a clear objective and council should retain the role of certifying that the objective has been achieved.	Planning

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
10	Alda Investments Ltd	Oppose	Conditions - Land Use Integration Process	Conditions should address buildings currently under construction.	Social
10	Alda Investments Ltd	Oppose	Conditions - Land Use Integration Process	Certainty required that working with the requiring authority through the Land Use Integration Process will result in s176 or s178 RMA approval.	Social
10	Alda Investments Ltd	Oppose	Conditions - outline plan	Condition 7 (Outline Plan) should not enable a Requiring Authority to pick and choose which management plans are relevant to each "stage" or allow the Requiring Authority to determine what is to form each "stage".	Social
10	Alda Investments Ltd	Oppose	Conditions - Stakeholder Communication and Engagement Plan	Stakeholder Communication and Engagement Plan (SCEMP) should include a resolution process for where the concerns of the landowner are not being adequately addressed by the outline plan of works/management plans	Social
10	Alda Investments Ltd	Oppose	Conditions - Urban and Landscape Design Management Plan (ULDMP)	Urban and Landscape Design Management Plan (ULDMP) should be utilised as a tool for refinement and implementation of a design which is already of a standard that will achieve quality urban design and landscape outcomes, as opposed to a tool to fix the current concept plan.	Urban design Social
10	Alda Investments Ltd	Oppose	Conditions - Urban and Landscape Design Management Plan (ULDMP)	Urban and Landscape Design Management Plan (ULDMP) requires stakeholders to be invited to participate in the detailed design 6 months prior to the start of detailed design for "a stage of work". There is no obligation for this participation to continue through the detailed design, nor to participate in earlier designs (e.g. enabling works) which ultimately affect decisions and outcomes in the ULDMP.	Urban design Social
10	Alda Investments Ltd	Oppose	Conditions - Urban and Landscape Design Management Plan (ULDMP)	Urban and Landscape Design Management Plan (ULDMP) should include an independent process for resolution of any disagreement in the design outcomes (as listed in clause (f) of the ULDMP condition) or achievement of the ULDMP objective outcomes (as listed in clause (b) of the ULDMP condition.	Urban design Social
10	Alda Investments Ltd	Oppose	Conditions - management plans - vehicle and pedestrian access	Management plans should be required to maintain access (vehicle and pedestrian) at all times during work	Devt Eng
11	DE Nakhle Investment Trust	Oppose		Seeks that the NoR be withdrawn	
11	DE Nakhle Investment Trust	Oppose	NoR extent	Eliminate the designation from 162-164 Porchester Road	Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
11	DE Nakhle Investment Trust	Oppose	Resource consent	NoR conflicts with a resource consent for which works have started at 164-166 Porchester Road (corner Walters Road). No mechanism proposed in NoR to address the resultant non compliance with approved land use consents.	Social
11	DE Nakhle Investment Trust	Oppose	Resource consent	Requiring authority should provide approval under ss176 or 178 RMA if required to allow the construction of the 42 consented dwellings on 164-166 Porchester Road	Social
11	DE Nakhle Investment Trust	Oppose	Construction effects - damage to buildings, including foundations	Ensure there is no damage to the buildings to be constructed at 164-166 Porchester Road, including demonstrating that the proposed designation works can proceed without undermining the foundations of the units. The buildings etc are in close proximity to the proposed designation boundary.	Geotech Noise and Vibration Social
11	DE Nakhle Investment Trust	Oppose	Construction - noise	Ensure that noise levels received at the units to be constructed at 164-166 Porchester Road are reasonable. The adequacy of noise assessment is questionable because there is no consistency between NoR 2 and South FTN NoR 4 for volumes of traffic and design of this portion of Porchester and Walters Roads.	Noise and Vibration
11	DE Nakhle Investment Trust	Oppose	Operational - noise	Ensure that noise levels received at the units to be constructed at 164-166 Porchester Road are reasonable. The adequacy of noise assessment is questionable because there is no consistency between NoR 2 and South FTN NoR 4 for volumes of traffic and design of this portion of Porchester and Walters Roads.	Noise and Vibration Social
11	DE Nakhle Investment Trust	Oppose	Noise	Require mitigation for future road noise to be installed as the units are built at 164-166 Porchester Road to avoid unnecessary wastage of resources and retrofitting costs.	Noise and Vibration
11	DE Nakhle Investment Trust	Oppose	Construction - noise	Provide sufficient information to ensure that noise received at the outdoor living spaces of the proposed units at 164-166 Porchester Road will maintain the useability of these spaces during construction. The adequacy of noise assessment is questionable because there is no consistency between NoR 2 and South FTN NoR 4 for volumes of traffic and design of this portion of Porchester and Walters Roads.	Noise and Vibration
11	DE Nakhle Investment Trust	Oppose	Operational - noise	Provide sufficient information to ensure that noise received at the outdoor living spaces of the proposed units at 164-166 Porchester Road will maintain the useability of these spaces following completion of the road. The adequacy of noise assessment is questionable because there is no consistency between NoR 2 and South FTN NoR 4 for volumes of traffic and design of this portion of Porchester and Walters Roads.	Noise and Vibration

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
11	DE Nakhle Investment Trust	Oppose	Construction - site access for emergency services for vulnerable residents	Secure access for residents of 164-166 Porchester Road (including by emergency services) during NoR construction	Devt Eng Social Transport
11	DE Nakhle Investment Trust	Oppose	Operational - site access for emergency services for vulnerable residents	Secure access for residents of 164-166 Porchester Road (including by emergency services).	Devt Eng Social Transport
11	DE Nakhle Investment Trust	Oppose	Pedestrian access to site	Maintain pedestrian accessibility for future residents of 164-166 Porchester Road	Devt Eng Social Transport
11	DE Nakhle Investment Trust	Oppose	Pedestrian safety	Provide a safe pedestrian environment on the upgraded roads adjacent to 164-166 Porchester Road	Devt Eng Social Transport
11	DE Nakhle Investment Trust	Oppose	Construction - privacy and screening	Provide sufficient information so privacy and screening for units from the NoR works occurring directly adjacent to outdoor living spaces at 164-166 Porchester Road can be managed.	Social
11	DE Nakhle Investment Trust	Oppose	Flooding Resident health and safety	Avoid flooding impacts on the buildings and carparking at 164-166 Porchester Road. The project should not enable any increase in flood hazard on the site. Health and safety of vulnerable residents needs to be assured.	Stormwater
11	DE Nakhle Investment Trust	Oppose	Project necessity	Require an appropriate roading design that caters for realistic future demand. Unclear whether necessity for project takes reduced development zoning changes anticipated by Future Development Strategy (adopted Nov 2023 by Council) into account	Planning
11	DE Nakhle Investment Trust	Oppose	Transport modelling	Require an appropriate roading design that caters for realistic future demand. Unclear whether traffic modelling volumes take reduced development zoning changes anticipated by Future Development Strategy (adopted Nov 2023 by Council) into account	Transport
11	DE Nakhle Investment Trust	Oppose	Transport - conflicting design responses	Provide certainty for landowners about the Porchester Road/Walters Road intersection. NoR2 and South FTN NoR 4 provide inconsistent design responses fronting 166 Porchester Road. NoR 2 and the resource consent for 164-166 Porchester Road propose the signalisation of the Porchester/Walters Road intersection. South FTN NoR 4 proposes a roundabout.	Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
11	DE Nakhle Investment Trust	Oppose	Traffic - conflicting traffic volume information	Provide certainty for landowners about the volumes of traffic for Porchester Road and Walters Road. NoR2 and South FTN NoR 4 have different factual starting points for traffic volume prediction.	Transport
11	DE Nakhle Investment Trust	Oppose	Economic	Require an appropriate roading design that recognises the value of existing investment	Transport
11	DE Nakhle Investment Trust	Oppose	NoR extent	Minimise intrusion of the NoR on private land	Transport
11	DE Nakhle Investment Trust	Oppose	Conditions - management plans certification	Require management plans to be certified. Each management plan should contain a clear objective and council should retain the role of certifying that the objective has been achieved.	Planning
11	DE Nakhle Investment Trust	Oppose	Conditions - Land Use Integration Process	Conditions should address buildings currently under construction.	Social
11	DE Nakhle Investment Trust	Oppose	Conditions - Land Use Integration Process	Certainty required that working with the requiring authority through the Land Use Integration Process will result in s176 or s178 RMA approval.	Social
11	DE Nakhle Investment Trust	Oppose	Conditions - outline plan	Condition 7 (Outline Plan) should not enable a Requiring Authority to pick and choose which management plans are relevant to each "stage" or allow the Requiring Authority to determine what is to form each "stage".	Social
11	DE Nakhle Investment Trust	Oppose	Conditions - Stakeholder Communication and Engagement Plan	Stakeholder Communication and Engagement Plan (SCEMP) should include a resolution process for where the concerns of the landowner are not being adequately addressed by the outline plan of works/management plans	Social
11	DE Nakhle Investment Trust	Oppose	Conditions - Urban and Landscape Design Management Plan (ULDMP)	Urban and Landscape Design Management Plan (ULDMP) requires stakeholders to be invited to participate in the detailed design 6 months prior to the start of detailed design for "a stage of work". There is no obligation for this participation to continue through the detailed design, nor to participate in earlier designs (e.g. enabling works) which ultimately affect decisions and outcomes in the ULDMP.	Urban Design Social
11	DE Nakhle Investment Trust	Oppose	Conditions - Urban and Landscape Design Management Plan (ULDMP)	Urban and Landscape Design Management Plan (ULDMP) requires stakeholders to be invited to participate in the detailed design 6 months prior to the start of detailed design for "a stage of work". There is no obligation for this participation to continue through the detailed design, nor to participate in earlier designs (e.g. enabling works) which ultimately affect decisions and outcomes in the ULDMP.	Urban Design Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
11	DE Nakhle Investment Trust	Oppose	Conditions - Urban and Landscape Design Management Plan (ULDMP)	Urban and Landscape Design Management Plan (ULDMP) should include an independent process for resolution of any disagreement in the design outcomes (as listed in clause (f) of the ULDMP condition) or achievement of the ULDMP objective outcomes (as listed in clause (b) of the ULDMP condition.	Urban Design Social
11	DE Nakhle Investment Trust	Oppose	Conditions - management plans - vehicle and pedestrian access	Management plans should be required to maintain access (vehicle and pedestrian) at all times during work	Noise and Vibration
12	KiwiRail Holdings Limited	Support	Transport	Supports the NoR as it will improve efficient and safety on the rail corridor.	Social
12	KiwiRail Holdings Limited	Support	Transport	Supports the NoR. Removal of level crossings is a key component of planned future investment outlined in the Strategic Rail Programme developed by KiwiRail and Auckland Transport	Transport
12	KiwiRail Holdings Limited	Support	Engagement with Submitter sought	Further engagement is sought with KiwiRail (the Requiring Authority for the earlier designations) as the project progresses. Bridge design will require particular attention. This future work will need to reference (and incorporate the KiwiRail Engineering Principles and Standards applying at the time. Future construction methodologies will also need to prioritise the need to limit the operational impacts on the NIMT.	Transport
12	KiwiRail Holdings Limited	Support	Transport (rail)	KiwiRail requires further detail prior to Kiwirail granting any approval as the Requiring Authority pursuant to Section 177 of the Resource Management Act 1991. This detail includes: - that growing the capacity and resilience of the NIMT through the provision of additional tracks (as outlined in the Strategic Rail Programme) is acknowledged and accommodated as far as possible in the development and design of the project.	Transport
12	KiwiRail Holdings Limited	Support	Transport (rail)	KiwiRail requires further detail prior to Kiwirail granting any approval as the Requiring Authority pursuant to Section 177 of the Resource Management Act 1991. This detail includes: - that NoR alignments which restrict or challenge emerging rail corridor options are addressed in advance of starting detailed design.	Transport
12	KiwiRail Holdings Limited	Support	Transport (rail)	KiwiRail requires further detail prior to Kiwirail granting any approval as the Requiring Authority pursuant to Section 177 of the Resource Management Act 1991. This detail includes: - evidence that Kiwi rail's Engineering Principles and Standards are met and incorporated.	Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
12	KiwiRail Holdings Limited	Support	Transport	KiwiRail requires further detail prior to Kiwirail granting any approval as the Requiring Authority pursuant to Section 177 of the Resource Management Act 1991. This detail includes: - construction methodologies that reduce the need for, or duration of, any proposed full closure of the NIMT.	Devt Eng Social
12	KiwiRail Holdings Limited	Support	Transport Geotechnical	KiwiRail requires further detail prior to KiwiRail granting any approval as the Requiring Authority pursuant to Section 177 of the Resource Management Act 1991. This detail includes: - that all safety and operational concerns arising from structures over and adjacent to the rail corridor are addressed, including but not limited to ongoing effects on corridor stability.	Transport Social
12	KiwiRail Holdings Limited	Support	Transport (rail)	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - allowance for future capacity upgrade of rail system including access for construction, operation and maintenance needs to be considered.	Transport
12	KiwiRail Holdings Limited	Support	Transport	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - that NoR2 bridge structure abutment and pier location will need to be confirmed in future design.	Transport
12	KiwiRail Holdings Limited	Support	Transport	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - that the proposed location of the cul de sac at the end of Takanui [Takanini?] Road (south west corner) is very close to the existing mains so rail capacity implications need to be worked through with KiwiRail	Transport
12	KiwiRail Holdings Limited	Support	Transport	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - identification of opportunities for future connection to the platform - station access from the bridge at Taka Street and from the footbridge at Manuroa Road needs to be well considered in detailed design.	Devt Eng
12	KiwiRail Holdings Limited	Support	Transport	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - the proposed ramps at Manuroa and Spartan Roads need careful attention due to proximity to the rail corridor and overhead electric systems.	Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
12	KiwiRail Holdings Limited	Support	NoR effects - flooding	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - future swale and overland flow solutions will require a co-ordinated approach by Auckland Transport and KiwiRail.	Stormwater
12	KiwiRail Holdings Limited	Support	NoR effects - flooding	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - at Spartan Road the major drainage swale/overland flow path in the rail corridor may conflict with footbridge. This needs to be considered in future design work including the reprovision of drainage infrastructure to prevent overland flow into the rail corridor.	Stormwater
12	KiwiRail Holdings Limited	Support	Transport	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - the location of the footbridge at Spartan Road needs to accommodate the potential capacity enhancement on the eastern side of the existing tracks.	Transport
12	KiwiRail Holdings Limited	Support	Transport	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - provision required for on-track access from the eastern side [of Spartan Road?].	Transport
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose		Opposes the NoR.	
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Transport - rail safety	Existing Walters Road level crossing gate means level crossing should not be unsafe.	Transport
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Transport	Walters Road crossing queues are not long enough to justify a bridge	Transport
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Transport - motorway	AT's focus should be on easing motorway congestion instead of this NoR	Transport
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Transport - funding	Taxpayer money is better spent on health budget than this NoR	Transport
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Transport (rail)	AT should regularise train services so both up and down trains cross Takanini level crossing at the same time, so people do not have to wait for up or down trains at the level crossing.	Transport
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Transport - number of crossings over railway for vehicles	Rationale of closing two other level crossings to make Arion Road and Walters Road busier and used for industrial traffic is not understood	Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Transport - congestion	Heavy traffic will create traffic congestion at Great South Road/Walters Road roundabout	Transport
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Vibration	Construction vibration will damage property at 3 Arion Road	Noise and Vibration Social
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Construction - Noise	There will be high levels of noise at 3 Arion Road	Noise and Vibration Social
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Operation - Noise	There will be high levels of noise at 3 Arion Road	Noise and Vibration Social
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Dust	There will be high levels of dust, which will cause health problems for residents at 3 Arion Road	Social
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Flooding	Risk of flooding	Stormwater
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Pollution	Pollution will increase	Social
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Parks	Park next to 3 Arion Road will be destroyed. Nature and beauty will be ruined.	Parks Landscape Social
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Landscape/visual Tree removal	Removal of trees will destroy nature	Trees Landscape
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Economic loss	Property value will decrease, and people will not buy the property at 3 Arion Road if the bridge is built.	Social
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Underpass	Consider building an underpass which would solve safety issues and traffic wait times. Flooding factors would have to be considered.	Social Urban Design
13	Jayanta Bhaduri and Sudarshana Bhaduri	Oppose	Social - antisocial activities	There will be antisocial activities under the bridge	Social Urban Design
14	Auckland Council Parks and Community Facilities	Oppose	Parks	If the extent of the NoR2 on 40R Walters Road cannot be avoided, then the Requiring Authority must mitigate or remedy the loss of public open space caused by NoR2 so that the same or more public open space is provided in a strategic location that is in proximity to the area taken by NoR 2.	Parks Social
15	Takaanini Childcare Investments Ltd	Oppose		Decline the NoR	

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
15	Takaanini Childcare Investments Ltd	Oppose	Lapse period	If the NoR is not declined, that the conditions of the NoR, including the duration of the approval, and process of acquisition, be shortened to 5 years to address the uncertainty for landowners and enable people to continue to provide for their social and economic wellbeing.	Social
15	Takaanini Childcare Investments Ltd	Oppose	Social effects	Childcare facilities not easy to replace and loss of centre would cause a childcare shortage in a high demand area	Social
15	Takaanini Childcare Investments Ltd	Oppose	Economic loss	Loss of business would cause economic loss	Social
15	Takaanini Childcare Investments Ltd	Oppose	Economic loss Social loss	Compensation sought by submitter. Landowners should be properly compensated for adverse impacts on their social and economic wellbeing	Social
15	Takaanini Childcare Investments Ltd	Oppose	Relocation assistance	Submitter seeks details of available assistance to secure another site for a childcare facility, and relocate to it, and ensure all of the necessary licensing and regulatory requirements are met	Social
15	Takaanini Childcare Investments Ltd	Oppose	Project necessity	Unclear whether project is necessary given changes anticipated by Future Development Strategy (adopted Nov 2023 by Council)	Planning
15	Takaanini Childcare Investments Ltd	Oppose	Lapse period Acquisition funding	If the full works are not funded in the next 5 years, at least the budget for land acquisition should be funded	Transport
15	Takaanini Childcare Investments Ltd	Oppose	Inadequate consideration of alternatives	Alternatives should have been more fully investigated	Geotech Transport
15	Takaanini Childcare Investments Ltd	Oppose	Property effects	Inadequate assessment of effects of options on surrounding property/land	Social Urban Design
15	Takaanini Childcare Investments Ltd	Oppose	Rail under road trench	Rail under road trench should have been investigated	Geotech Transport
15	Takaanini Childcare Investments Ltd	Oppose	Rail under road trench - extent	Rail under road trench would limit amount of NoR land	Transport
15	Takaanini Childcare Investments Ltd	Oppose	Rail under road trench - noise effects	Rail under road trench should be explored in terms of adverse noise effects of rail corridor on residents	Noise and Vibration
15	Takaanini Childcare Investments Ltd	Oppose	Rail under road trench - visual amenity of infrastructure	Rail under road trench should be explored in terms of adverse amenity effects of gantry and cable infrastructure to provide power to trains	Transport
15	Takaanini Childcare Investments Ltd	Oppose	Rail under road trench - visual amenity	Rail under road trench should be explored in terms of adverse visual amenity and dominance and shading effects of large concrete overbridge structures on residential dwellings and public street and pedestrian spaces	Social Urban Design

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
15	Takaanini Childcare Investments Ltd	Oppose	Rail under road trench - construction effects	Solutions could be found to limit disruptions to rail operations	Transport
16	Ministry of Education		Transport - active modes	Supports in principle the proposed walking and cycling facilities proposed in the NoR application. Improved active mode connectivity is essential to provide existing and future communities with a sustainable means of accessing education facilities in the Takanini area.	Social
16	Ministry of Education		Management plans - stakeholder and community engagement	Include the Ministry of Education as the primary contact for schools in the Stakeholder and Community Engagement Management Plan (SCEMP). Specific engagement is required to manage construction effects on schools.	Social
16	Ministry of Education		Condition consistency with other Te Tupu Ngātahi conditions.	Make amendments to conditions to ensure consistency with the changes made to the Te Tupu Ngātahi Warkworth NoR conditions as included in the Strategic Planning and Conditions Rebuttal Evidence prior to the Council hearing. This includes the requirement that at least 6 month prior to construction, the Requiring Authority shall identify a list of stakeholders and properties and identify methods to engage with stakeholders and submit this record with any Outline Plan of Works for the relevant stage of work. The inclusion of a new condition that addresses this, is consistent with other conditions agreed through Te Tupu Ngātahi designations.	Social
16	Ministry of Education		Management plans - noise and vibration	Amend Conditions 21 and 21 relating to the Construction Noise and Vibration Management Plan (CNVMP) to make specific reference to education facilities to ensure they are taken into consideration as part of the development of this plan as a key stakeholder. The submitter also requests that any construction activities that could be expected to significantly exceed the permitted noise and/or vibration levels are undertaken outside of study and exam periods to minimise disruptions to students' learning.	Noise and Vibration Social
16	Ministry of Education		Management plans - traffic	Amend Condition 18 relating to the Construction Traffic Management Plan (CTMP) to make specific reference to education facilities to address the estimated numbers, frequencies, routes and timing of traffic movements, including any specific non-working or non-movement hours (for example on roads servicing education facilities during pick-up and drop-off times) to manage vehicular and pedestrian traffic near educational facilities or to manage traffic congestion.	Devt Eng Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
16	Ministry of Education		Acronym consistency with other Te Tupu Ngātahi conditions.	Use acronyms and terms in the NoRs that are consistent with those agreed through other Te Tupu Ngātahi NoRs. As these terms are continuously evolving through hearings on NoRs, a summary of the terms supported is: - Education facility - Stakeholder	Social
16	Ministry of Education			Submitter seeks such other consequential amendments to the NoRs that may be necessary to give effect to the relief sought in their submission.	
17	Takanini Village Limited and Tonea Properties (NZ) Limited			Withdraw the NoR	
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Effects	If the NoR is not withdrawn, modify the NoR or make it subject to conditions to address all of the concerns raised in the submission. The NoR will impact on Spartan Road, Manuia Road, Manuroa Road and Taka Street and result in cumulative adverse effects on the Takanini Town Centre.	Landscape Social Transport
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Traffic - site access	There will be adverse effects on the Takanini Town Centre at 30 Arion Road, including on the operation and safety of access from Walters Road to the Takanini Town Centre.	Social Transport
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Traffic - Walters Road/Arion Road intersection	There will be adverse effects on the Takanini Town Centre at 30 Arion Road, including potentially on the Walters Road/Arion Road intersection.	Transport
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Traffic - parking during construction	There will be adverse effects on the Takanini Town Centre at 30 Arion Road, including traffic safety and parking effects during construction. Access is proposed to be restricted for three years from Walters Road to the Takanini Town Centre.	Social Transport
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Traffic - parking	There will be adverse effects on the Takanini Town Centre at 30 Arion Road, including parking effects following project completion.	Social Transport
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Landscape Urban design	There will be adverse effects on the interface with the Takanini Town Centre at 30 Arion Road, including landscape effects and urban design considerations.	Landscape Urban Design
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Landscape Urban design	Bridge will be visually prominent and dominant at Walters Road to all tenants and users of the town centre (and for nearby residential dwellings)	Landscape Urban design
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Construction Noise and Vibration	There will be adverse effects on the Takanini Town Centre at 30 Arion Road, including construction noise and vibration effects.	Noise and Vibration Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Geotechnical	There will be adverse geotechnical effects on the Takanini Town Centre at 30 Arion Road, including on the underground basement to the building in the south east corner of the site	Geotech
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Services Stormwater	There will be adverse impacts on existing service connections to the Takanini Town Centre at 30 Arion Road, including water fibre, gas, power and impacts on stormwater networks both piped and overland flows.	Stormwater
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Site access and parking	There will be adverse impacts on existing pedestrian and vehicular access and carparking to the Takanini Town Centre at 30 Arion Road, including the loss of pylon signage, carparks, electric vehicle charging infrastructure, gardens and irrigation	Social Transport
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Alternatives	Inadequate consideration of alternative sites, routes and methods for the project.	Geotech Landscape Transport
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Economic Social	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example reduced access to a large number of properties which front the project areas may result in a number of businesses considered important to the community being lost.	Social
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Transport	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example significant traffic adverse effects will be created with disjointed connectivity and disruption of the existing urban form with a reduced amount of east-west connectivity across Takanini.	Transport
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Pedestrian bridges	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example creation of unsafe pedestrian crossings (i.e. Spartan Road and Manuroa Road) which are not suitable for all people to utilise.	Transport Social
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Parks	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example loss of existing open space for the community (i.e. Takaanini Reserve).	Parks Social
17	Takanini Village Limited and Tonea Properties (NZ) Limited		CPTED and under crofts	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example CPTED (Crime Prevention Through Environmental Design) issues will be created through the proposed under croft spaces (i.e. spaces under the bridges e.g. at Taka Street) as there is potential for these areas to become unsafe walking environments, poorly lit, be compromised by obscure wayfinding and have low amenity values.	Social Urban Design

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Transport - freight routes	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example inadequate consideration has been given to the effects of the alternative freight movement route and the closure of the current over-dimension freight route along Manuroa Road.	Transport
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Transport - routes during construction	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example inadequate consideration for suitable alternative routes to facilitate traffic, pedestrian, and cyclist movement across Takanini during the construction period of the grade separated areas.	Social Transport
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Visual Landscape	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example a large number of residential and commercial properties will be subject to significant adverse landscape and visual effects.	Landscape Urban design
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Extent of NoR and effects	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. The Requiring Authority has failed to undertake a proper consideration of alternatives that use a lesser extent of land and/or have lesser environmental effects than its preferred option.	Transport Landscape Urban design
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is insufficient assessment as to how an underpass option compares to the Requiring Authority's preferred option.	Transport
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is insufficient assessment of effects on the environment resulting from the works enabled by the Requiring Authority's preferred option and how it could be reduced by pursuing an alternative method (i.e. an underpass).	Landscape
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Underpass costings	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. The adequacy of alternative options was not considered in sufficient detail in supporting reports (including the absence of an appropriate comparative costing assessment).	Transport
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Assessment of necessity of NoR	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is inadequate assessment to support a conclusion that the entire extent of the designation was "reasonably necessary", particularly in relation to the shortcomings in the evaluation of alternatives and the failure to properly assess effects on Takanini Town Centre and other surrounding properties and businesses.	Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Assessment of environmental effects of alternative routes or methods	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is an absence of assessment as to whether an alternative route or method would result in reduced environmental effects, particularly for Takanini Town Centre and its surrounding sites.	Landscape Urban Design
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. An underpass option is not suppositious or hypothetical and ought to have been adequately considered.	Transport
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Noise and Vibration	Construction noise and vibration effects over long durations, and which involve night-time and long weekend works, are unreasonable for affected landowners.	Noise and Vibration
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Lapse period	Lapse period of 15 years is inappropriate. There is lack of supporting evidence, the long lapse period creates uncertainty, and there is a lack of funding for the works and an absence of any proper assessment or commitment to a works timeframe. The Requiring Authority has no secured funding or interest in much of the designated route.	Social
17	Takanini Village Limited and Tonea Properties (NZ) Limited		Impact on Takanini Town Centre	Conditions should be imposed to ensure the minimum practicable impact on Takanini Town Centre especially in terms of access, visual and landscape amenity, geotechnical risks, noise and vibration effects and impact on existing service and operations.	Noise and Vibration Devt Eng Landscape Social
17	Takanini Village Limited and Tonea Properties (NZ) Limited			Submitter seeks such alternative, further or consequential relief as may be required to address the concerns raised in their submission.	
18	Sunlight Holdings Limited and South Auckland Marine Limited			Withdraw the NoR	
18	Sunlight Holdings Limited and South Auckland Marine Limited			If the NoR is not withdrawn, modify the NoR or make it subject to conditions to address all of the concerns raised in the submission. The NoR will impact on Spartan Road, Manuia Road, Manuroa Road and Taka Street and result in cumulative adverse effects on the Takanini Town Centre, Southgate Shopping Centre and surrounding businesses.	Social Transport
18	Sunlight Holdings Limited and South Auckland Marine Limited		Alternatives	Inadequate consideration of alternative sites, routes and methods for the project.	Geotech Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
18	Sunlight Holdings Limited and South Auckland Marine Limited		Economic Social	Submitter's business at 1-3 Walters Road will not be able to continue operation and will likely need to relocate	Social
18	Sunlight Holdings Limited and South Auckland Marine Limited		Site operation	Any rump land at 1-3 Walters Road not used for the access road or for construction will be inefficient and unusually shaped so use of that land will be challenging	Transport
18	Sunlight Holdings Limited and South Auckland Marine Limited		Site operation	Loss of yard space at 1-3 Walters Road will impact on site storage for existing business	Social
18	Sunlight Holdings Limited and South Auckland Marine Limited		Transport - business access	There will be adverse effects on the operation and safety of access from Walters Road to surrounding business for 1-3 Walters Road and surrounding environment	Social Transport
18	Sunlight Holdings Limited and South Auckland Marine Limited		Transport - Tironui/Walters Road	Potential adverse effects on Tironui/Walters Road intersection	Transport
18	Sunlight Holdings Limited and South Auckland Marine Limited		transport - construction parking	Adverse parking effects during construction on 1-3 Walters Road and surrounding environment	Social Transport
18	Sunlight Holdings Limited and South Auckland Marine Limited		Transport - parking	Adverse parking effects following completion of project on 1-3 Walters Road and surrounding environment	Social Transport
18	Sunlight Holdings Limited and South Auckland Marine Limited		Landscape Urban design	Adverse effects on the interface with businesses along Walters Road on 1-3 Walters Road and surrounding environment, including landscape effects and urban design considerations	Landscape Urban Design
18	Sunlight Holdings Limited and South Auckland Marine Limited		Construction noise and vibration	Adverse construction noise and vibration effects on 1-3 Walters Road and surrounding environment	Noise and Vibration Social
18	Sunlight Holdings Limited and South Auckland Marine Limited		Economic Social	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example reduced access to a large number of properties which front the project areas may result in a number of businesses considered important to the community being lost.	Social
18	Sunlight Holdings Limited and South Auckland Marine Limited		Transport	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example significant traffic adverse effects will be created with disjointed connectivity and disruption of the existing urban form with a reduced amount of east-west connectivity across Takanini.	Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
18	Sunlight Holdings Limited and South Auckland Marine Limited		Pedestrian bridges	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example creation of unsafe pedestrian crossings (i.e. Spartan Road and Manuroa Road) which are not suitable for all people to utilise.	Transport Social
18	Sunlight Holdings Limited and South Auckland Marine Limited		Parks	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example loss of existing open space for the community (i.e. Takaanini Reserve).	Parks Social
18	Sunlight Holdings Limited and South Auckland Marine Limited		CPTED and under crofts	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example CPTED (Crime Prevention Through Environmental Design) issues will be created through the proposed under croft spaces (i.e. spaces under the bridges e.g. at Taka Street) as there is potential for these areas to become unsafe walking environments, poorly lit, be compromised by obscure wayfinding and have low amenity values.	Social Urban Design
18	Sunlight Holdings Limited and South Auckland Marine Limited		Transport - freight routes	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example inadequate consideration has been given to the effects of the alternative freight movement route and the closure of the current over-dimension freight route along Manuroa Road.	Social Transport
18	Sunlight Holdings Limited and South Auckland Marine Limited		Transport - routes during construction	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example inadequate consideration for suitable alternative routes to facilitate traffic, pedestrian, and cyclist movement across Takanini during the construction period of the grade separated areas.	Social
18	Sunlight Holdings Limited and South Auckland Marine Limited		Visual Landscape	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example a large number of residential and commercial properties will be subject to significant adverse landscape and visual effects.	Landscape Urban Design
18	Sunlight Holdings Limited and South Auckland Marine Limited		Extent of NoR and effects	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. The Requiring Authority has failed to undertake a proper consideration of alternatives that use a lesser extent of land and/or have lesser environmental effects than its preferred option.	Geotech Landscape
18	Sunlight Holdings Limited and South Auckland Marine Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is insufficient assessment as to how an underpass option compares to the Requiring Authority's preferred option.	Geotech Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
18	Sunlight Holdings Limited and South Auckland Marine Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is insufficient assessment of effects on the environment resulting from the works enabled by the Requiring Authority's preferred option and how it could be reduced by pursuing an alternative method (i.e. an underpass).	Geotech Transport
18	Sunlight Holdings Limited and South Auckland Marine Limited		Underpass costings	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. The adequacy of alternative options was not considered in sufficient detail in supporting reports (including the absence of an appropriate comparative costing assessment).	Transport
18	Sunlight Holdings Limited and South Auckland Marine Limited		Assessment of necessity of NoR	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is inadequate assessment to support a conclusion that the entire extent of the designation was "reasonably necessary", particularly in relation to the shortcomings in the evaluation of alternatives and the failure to properly assess effects on the site and other surrounding properties and businesses.	Social
18	Sunlight Holdings Limited and South Auckland Marine Limited		Assessment of environmental effects of alternative routes or methods	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is an absence of assessment as to whether an alternative route or method would result in reduced environmental effects, particularly for 1-3 Walters Road, or the ability for 1-3 Walters Road to continue to be used for its current operations	Landscape Urban Design Transport
18	Sunlight Holdings Limited and South Auckland Marine Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. An underpass option is not suppositious or hypothetical and ought to have been adequately considered.	Transport
18	Sunlight Holdings Limited and South Auckland Marine Limited		Noise and Vibration	Construction noise and vibration effects over long durations, and which involve night-time and long weekend works, are unreasonable for affected landowners.	Noise and Vibration
18	Sunlight Holdings Limited and South Auckland Marine Limited		Lapse period	Lapse period of 15 years is inappropriate. There is lack of supporting evidence, the long lapse period creates uncertainty, and there is a lack of funding for the works and an absence of any proper assessment or commitment to a works timeframe. The Requiring Authority has no secured funding or interest in much of the designated route.	Transport Social
18	Sunlight Holdings Limited and South Auckland Marine Limited		NoR conditions	Conditions should be imposed to ensure the minimum practicable impact on 1-3 Walters Road especially in terms of access, visual and landscape amenity, geotechnical risks, noise and vibration effects and impact on existing service and operations.	Geotech Noise and Vibration Landscape Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
18	Sunlight Holdings Limited and South Auckland Marine Limited			Submitter seeks such alternative, further or consequential relief as may be required to address the concerns raised in their submission.	
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited			Withdraw the NoR	
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Environmental effects	If the NoR is not withdrawn, modify the NoR or make it subject to conditions to address all of the concerns raised in the submission. The NoR will impact on Spartan Road, Manuia Road, Manuroa Road and Taka Street and result in cumulative adverse effects on the Takanini Town Centre and the surrounding business and residential landowners.	Social
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Alternatives	Inadequate consideration of alternative sites, routes and methods for the project.	Geotech Transport
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Site operation	Significant reduction in yard size at submitter's business at 12 Walters Road has consequences for continued operation of the business on the site.	Social
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Transport - business access	NoR directly impacts and restricts the sole access from Walters Road to the site at 12 Walters Road. Deliveries by large truck and trailers will not be possible, which will have critical adverse effects on business operation and trade.	Social Transport
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Transport - business access	There will be adverse effects on the operation and safety of access from Walters Road to surrounding business, particularly those with primary or sole access from Walters Road	Social Transport
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Transport - Walters Road/Great South Road	Potential adverse effects on Walters Road/Great South Road intersection	Transport
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Transport - construction parking	Adverse parking effects during construction on 12 Walters Road and surrounding environment	Social Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Transport - parking	Adverse parking effects following completion of project on 12 Walters Road and surrounding environment	Social Transport
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Landscape Urban design	Adverse effects on the interface with businesses along Walters Road on 1-3 Walters Road and surrounding environment, including landscape effects and urban design considerations. Bridge will be visually prominent and dominant at Walters Road to tenants and customers	Landscape Urban Design
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Construction noise and vibration	Adverse construction noise and vibration effects on 12 Walters Road and surrounding environment	Noise and Vibration Social
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Geotechnical	Adverse geotechnical effects on existing buildings and infrastructure at 12 Walters Road and surrounding environment	Geotech
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Economic Social	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example reduced access to a large number of properties which front the project areas may result in a number of businesses considered important to the community being lost.	Social
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Transport	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example significant traffic adverse effects will be created with disjointed connectivity and disruption of the existing urban form with a reduced amount of east-west connectivity across Takanini.	Transport
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Pedestrian bridges	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example creation of unsafe pedestrian crossings (i.e. Spartan Road and Manuroa Road) which are not suitable for all people to utilise.	Transport Social
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Parks	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example loss of existing open space for the community (i.e. Takaanini Reserve).	Parks Social
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		CPTED and under crofts	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example CPTED (Crime Prevention Through Environmental Design) issues will be created through the proposed under croft spaces (i.e. spaces under the bridges e.g. at Taka Street) as there is potential for these areas to become unsafe walking environments, poorly lit, be compromised by obscure wayfinding and have low amenity values.	Social Urban Design

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Transport - freight routes	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example inadequate consideration has been given to the effects of the alternative freight movement route and the closure of the current over-dimension freight route along Manuroa Road.	Transport
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Transport - routes during construction	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example inadequate consideration for suitable alternative routes to facilitate traffic, pedestrian, and cyclist movement across Takanini during the construction period of the grade separated areas.	Social Transport
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Visual Landscape	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example a large number of residential and commercial properties will be subject to significant adverse landscape and visual effects.	Landscape
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Extent of NoR and effects	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. The Requiring Authority has failed to undertake a proper consideration of alternatives that use a lesser extent of land and/or have lesser environmental effects than its preferred option.	Geotech Landscape
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is insufficient assessment as to how an underpass option compares to the Requiring Authority's preferred option.	Geotech Transport
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is insufficient assessment of effects on the environment resulting from the works enabled by the Requiring Authority's preferred option and how it could be reduced by pursuing an alternative method (i.e. an underpass).	Geotech Transport
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Underpass costings	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. The adequacy of alternative options was not considered in sufficient detail in supporting reports (including the absence of an appropriate comparative costing assessment).	Transport
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Assessment of necessity of NoR	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is inadequate assessment to support a conclusion that the entire extent of the designation was "reasonably necessary", particularly in relation to the shortcomings in the evaluation of alternatives and the failure to properly assess effects on 12 Walters Road and other surrounding properties and businesses.	Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Assessment of environmental effects of alternative routes or methods	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is an absence of assessment as to whether an alternative route or method would result in reduced environmental effects, particularly for 12 Walters Road, or the ability for 12 Walters Road to continue to be used for its current operations.	Landscape Urban Design
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. An underpass option is not suppositious or hypothetical and ought to have been adequately considered.	Transport
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Noise and Vibration	Construction noise and vibration effects over long durations, and which involve night-time and long weekend works, are unreasonable for affected landowners.	Noise and Vibration
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		Lapse period	Lapse period of 15 years is inappropriate. There is lack of supporting evidence, the long lapse period creates uncertainty, and there is a lack of funding for the works and an absence of any proper assessment or commitment to a works timeframe. The Requiring Authority has no secured funding or interest in much of the designated route.	Social
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited		NoR conditions	Conditions should be imposed to ensure the minimum practicable impact on 12 Walters Road especially in terms of access, visual and landscape amenity, geotechnical risks, noise and vibration effects and impact on existing service and operations.	Geotech Noise and Vibration Landscape Social Urban Design
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited			Submitter seeks such alternative, further or consequential relief as may be required to address the concerns raised in their submission.	
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.			Withdraw the NoR	
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Environmental effects	If the NoR is not withdrawn, modify the NoR or make it subject to conditions to address all of the concerns raised in the submission. The NoR will impact on Spartan Road, Manuia Road, Manuroa Road and Taka Street and result in cumulative adverse effects on the Takanini Town Centre, Southgate Shopping Centre, and surrounding businesses.	Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Alternatives	Inadequate consideration of alternative sites, routes and methods for the project.	Geotech Transport
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Site operation	Construction effects and the potential use of 20A Walters Road for construction purposes will affect or remove part of the building on that site. This will affect the operation of the business which also operates at 230 Great South Road	Social Transport
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Transport - business access	There will be adverse effects on the operation and safety of access from Walters Road to surrounding business for 20A Walters Road, 230 Great South Road Takanini, and surrounding environment	Social Transport
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Transport - Walters Road/Great South Road	Potential adverse effects on Walters Road/Great South Road intersection	Transport
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Transport - construction parking	Adverse parking effects during construction on 20A Walters Road, 230 Great South Road Takanini, and surrounding environment	Social Transport
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Transport - parking	Adverse parking effects following completion of project on 20A Walters Road, 230 Great South Road Takanini, and surrounding environment	Social Transport
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Landscape Urban design	Adverse effects on the interface with businesses along Walters Road on 20A Walters Road, 230 Great South Road Takanini, and surrounding environment, including landscape effects and urban design considerations. Bridge will be visually prominent and dominant at Walters Road to tenants and customers	Landscape Urban Design
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Construction noise and vibration	Adverse construction noise and vibration effects on 20A Walters Road, 230 Great South Road Takanini, and surrounding environment	Noise and Vibration Social
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Geotechnical	Adverse geotechnical effects on existing buildings and infrastructure at 20A Walters Road, 230 Great South Road Takanini, and surrounding environment	Geotech

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Economic Social	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example reduced access to a large number of properties which front the project areas may result in a number of businesses considered important to the community being lost.	Social
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Transport	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example significant traffic adverse effects will be created with disjointed connectivity and disruption of the existing urban form with a reduced amount of east-west connectivity across Takanini.	Transport
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Pedestrian bridges	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example creation of unsafe pedestrian crossings (i.e. Spartan Road and Manuroa Road) which are not suitable for all people to utilise.	Transport
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Parks	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example loss of existing open space for the community (i.e. Takaanini Reserve).	Parks Social
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		CPTED and under crofts	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example CPTED (Crime Prevention Through Environmental Design) issues will be created through the proposed under croft spaces (i.e. spaces under the bridges e.g. at Taka Street) as there is potential for these areas to become unsafe walking environments, poorly lit, be compromised by obscure wayfinding and have low amenity values.	Social Urban Design
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Transport - freight routes	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example inadequate consideration has been given to the effects of the alternative freight movement route and the closure of the current over-dimension freight route along Manuroa Road.	Social Transport
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Transport - routes during construction	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example inadequate consideration for suitable alternative routes to facilitate traffic, pedestrian, and cyclist movement across Takanini during the construction period of the grade separated areas.	Social Transport
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Visual Landscape	Assessment of options explored has not been proportional to the potential effects of the options being considered. For example a large number of residential and commercial properties will be subject to significant adverse landscape and visual effects.	Landscape Urban Design

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Extent of NoR and effects	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. The Requiring Authority has failed to undertake a proper consideration of alternatives that use a lesser extent of land and/or have lesser environmental effects than its preferred option.	Geotech
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is insufficient assessment as to how an underpass option compares to the Requiring Authority's preferred option.	Geotech Transport
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is insufficient assessment of effects on the environment resulting from the works enabled by the Requiring Authority's preferred option and how it could be reduced by pursuing an alternative method (i.e. an underpass).	Geotech Urban Design Transport
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Underpass costings	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. The adequacy of alternative options was not considered in sufficient detail in supporting reports (including the absence of an appropriate comparative costing assessment).	Transport
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Assessment of necessity of NoR	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is inadequate assessment to support a conclusion that the entire extent of the designation was "reasonably necessary", particularly in relation to the shortcomings in the evaluation of alternatives and the failure to properly assess effects on 20A Walters Road, 230 Great South Road Takanini, and other surrounding properties and businesses.	Transport
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Assessment of environmental effects of alternative routes or methods	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. There is an absence of assessment as to whether an alternative route or method would result in reduced environmental effects, particularly for 20A Walters Road, 230 Great South Road Takanini, and their surrounding sites.	Landscape Urban Design
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Underpass	Consideration of alternatives particularly with respect to an underpass alternative is inadequate. An underpass option is not suppositious or hypothetical and ought to have been adequately considered.	Transport
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Noise and Vibration	Construction noise and vibration effects over long durations, and which involve night-time and long weekend works, are unreasonable for affected landowners.	Noise and Vibration

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		Lapse period	Lapse period of 15 years is inappropriate. There is lack of supporting evidence, the long lapse period creates uncertainty, and there is a lack of funding for the works and an absence of any proper assessment or commitment to a works timeframe. The Requiring Authority has no secured funding or interest in much of the designated route.	Social
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.		NoR conditions	Conditions should be imposed to ensure the minimum practicable impact on 20A Walters Road and 230 Great South Road Takanini, especially in terms of access, visual and landscape amenity, geotechnical risks, noise and vibration effects and impact on existing service and operations.	Geotech Noise and Vibration Landscape Social Transport Urban Design
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.			Submitter seeks such alternative, further or consequential relief as may be required to address the concerns raised in their submission.	
21	Watercare Services Limited	Neutral	Network Utilities	Submitter seeks amendments to the NoR, including by way of conditions to ensure any adverse effects on Watercare's assets and operations are avoided, remedied or mitigated and to address the concerns set out in their submission.	

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
21	Watercare Services Limited	Neutral	Network Utilities	Add a new condition that requires the preparation of a "Network Utility Strategic Outcomes Plan" to the NoR to futureproof assets in consultation with network operators such as Watercare: **Network Utility Strategic Outcomes Plan (NUSOP)** (a) A NUSOP shall be prepared in the project feasibility stage or as early as practicable. (b) The objective of the NUSOP is to set out a strategic framework for asset resilience that includes consideration of growth, corridor protection, and asset renewals over time. (c) The NUSOP shall: (i) consider expected asset life of existing assets; (ii) consider expected asset capacity increases or changes; and (iii) demonstrate how city and national strategic plans are considered. (d) The NUSOP shall be prepared in consultation with the relevant Network Utility Operator(s) who have existing assets that are directly affected by the Project, including Watercare. (e) The NUSOP shall describe how strategic plans from the Network Utility Operators in relation to its assets have been addressed. (f) Any comments received from the Network Utility Operator shall be considered when finalising the NUSOP. (g) Any amendments to the NUSOP related to the assets of a Network Utility Operator shall be prepared in consultation with that asset owner.	Network Utilities

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
21	Watercare Services Limited	Neutral	Network Utilities	If the submitter's proposed Network Utility Strategic Outcomes Plan is not included in the NoR, the submitter seeks the following amendments (shown in underline) to the NUMP (Network Utilities Management Plan) condition in the NOR: (a) A NUMP shall be prepared after consultation with Network Utility Operator(s) including during the feasibility and detailed design phases, and prior to the lodgement of an Outline Plan of Works for a stage of construction ~~Start of Construction for a Stage of Work~~. ... (c) The NUMP shall be prepared in consultation with the relevant Network Utility Operator(s) who have existing assets that are directly affected by the Project and shall include any s177 consents required for works affecting prior Designations and Watercare 'Works Over Approvals". ... (h) The Requiring Authority shall consult with Network Utility Operators during the feasibility and detailed design phases to identify opportunities to enable, or not preclude, the development of new network utility facilities including access to power, water services and ducting within the Project. where practicable to do so. The consultation undertaken, opportunities considered, and whether or not they have been incorporated into the detailed design, shall be summarised in the Outline Plan or Plans prepared for the Project.	Network Utilities
21	Watercare Services Limited	Neutral	Network Utilities	Submitter seeks such further relief or other consequential amendments as considered appropriate and necessary to address the concerns raised in their submission.	
22	Z Energy Limited		Traffic effects on site	Ensure that the NoR does not propose permanent road changes that adversely affect traffic movements to/from and within the service station at 254 Great South Road Takanini, including in relation to the Great South Road access points.	Transport
22	Z Energy Limited		Landscaping Signage Hazardous substances Traffic Stormwater Stormwater Landscaping	Ensure that the NoR will not affect the existing landscaping, signage, hazardous substance storage / transfer / use layout, and infrastructure (including stormwater) at 254 Great South Road Takanini.	Social Transport

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
22	Z Energy Limited		NoR extent	Ensure that the designation boundary does not encroach into the site at 254 Great South Road Takanini, and that the designation boundary is not amended to extend along the site's Great South Road frontage.	Transport
22	Z Energy Limited		Site operation	Manage potential construction effects on 254 Great South Road Takanini appropriately, noting that: (a) a 2.5 to 3 year construction timeframe is proposed for the Walters Road section of road, and (b) the concept level design plans and designated area could change to suit the Supporting Growth Alliance's future plans. Maintain convenient and safe access for passing traffic to the site.	Transport
22	Z Energy Limited		Hazardous substances Traffic Stormwater Landscaping Signage Social Economic	Ensure permanent effects of NoR do not impact ability to safely operate Z Takanini site at 254 Great South Road Takanini	Devt Eng Social Transport
22	Z Energy Limited		Hazardous substances Traffic Stormwater Landscaping Signage Social Economic	Ensure construction effects of NoR do not impact ability to safely operate Z Takanini site at 254 Great South Road Takanini	Social Transport
22	Z Energy Limited		Social	NoR conditions do not all require meaningful consultation with affected parties or establish outcomes to be achieved, which creates uncertainty for submitter	Social
22	Z Energy Limited		Lapse period	Require a 5 year lapse period. Lapse period of 15 years creates uncertainty for business operation	Social
22	Z Energy Limited		NoR review	Amend condition 4 (Designation Review) to state: *"The Requiring Authority shall as soon as practicable, and otherwise within 12 months of the Completion of Construction for each Stage of Project…* "	Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
22	Z Energy Limited		Management plans - stakeholders	Amend condition 8 (Management Plans) to require that the summary of comments received (required by condition (8(a)(iv)) demonstrates how, as far as practicable, the feedback from stakeholders has been incorporated.	Social
22	Z Energy Limited		Management plans - stakeholder and community engagement	Amend Condition 9 of the Stakeholder and Community Engagement Management Plan (SCEMP) to include the requirement to prepare a schedule of sites affected and site-specific matters identified in the schedule to be addressed through consultation (refer to the Joint Witness Statement (Planning- Condition) dated 20 September 2023 submitted to the Hearing Panel for the North West NoRs). It is assumed that Z Energy will be a stakeholder to be engaged and listed under 9(b)(i)(B).	Social
22	Z Energy Limited		Management plans - Landscape and Urban Design	Condition 12 (d) is supported -Urban and Landscape Design Management Plan (ULDMP)	Social Urban Design
22	Z Energy Limited		Stakeholders	Amend Condition 14 (Existing property access) to also refer to occupiers and leaseholders. It is not always just a landowner who may be affected.	Social
22	Z Energy Limited		Management Plans - Construction Environment Management	Amend 15 Construction Environment Management Plan (CEMP) to require affected parties to be engaged with to participate in the drafting of the CEMP or amend the Stakeholder and Community Engagement Management Plan (SCEMP) condition so this is clear.	Social
22	Z Energy Limited		Management plans - Stakeholder and Community Engagement	Require affected parties to be engaged with in the drafting of the Construction Traffic Management Plan (CTMP) by amending condition 18, or amend the Stakeholder and Community Engagement Management Plan (SCEMP) condition so this is clear.	Social
22	Z Energy Limited			Seeks engagement with requiring authority to discuss submission	Social
23	Kāinga Ora	Support in part		Supports NoR in part, subject to relief sought being granted	
23	Kāinga Ora	Support in part	Management plans - Traffic -walking and cycling Urban design Landscape	Amend condition 12 (Urban and Landscape Design Management Plan) to provide safer, more direct and more attractive connections for cycling and walking - see submission for specific wording	Social Urban Design Transport
23	Kāinga Ora	Support in part	Lapse period	Amend condition 5 (Lapse) from 15 years to 10 years to provide greater certainty and for the project to benefit communities sooner	Social

Sub #	Submitter Name	Oppose / Support	Themes	Summary	Hearing Report Topic
23	Kāinga Ora	Support in part	Noise and Vibration	That operational noise levels for this project shall not exceed 55dB Laeq (24h) beyond the boundaries of the designation or, where exceeded at a sensitive receiver, mitigation is provided.	Noise and Vibration
23	Kāinga Ora	Support in part	Traffic Noise	Amend condition 25 - see submission for specific wording about operational noise	Noise and Vibration
23	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 27 - see submission for specific wording about operational noise	Noise and Vibration
23	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 28 - see submission for specific wording about operational noise	Noise and Vibration
23	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 29 - see submission for specific wording about operational noise	Noise and Vibration
23	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 31 - see submission for specific wording about operational noise	Noise and Vibration
23	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 32 - see submission for specific wording about operational noise	Noise and Vibration
23	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 33 - see submission for specific wording about operational noise	Noise and Vibration
23	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 34 - see submission for specific wording about operational noise	Noise and Vibration
23	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 35 - see submission for specific wording about operational noise	Noise and Vibration
23	Kāinga Ora	Support in part	Noise and Vibration	Amend condition 36 - see submission for specific wording about operational noise	Noise and Vibration
23	Kāinga Ora	Support in part	Noise and Vibration	Amend Condition 37 - see submission for specific wording about operational noise	Noise and Vibration
23	Kāinga Ora	Support in part	Noise and Vibration	Such further or other relief, or consequential or other amendments, as are considered appropriate and necessary to address the submitter's concerns. Any other alternative or consequential relief to give effect to the submission.	Noise and Vibration
24	Manpreet Kaur	Oppose	Economic loss	Council should abandon designation so rental property potential at 33 Walters Road can be realised	Social
24	Manpreet Kaur	Oppose	Economic loss	Council should purchase entire property potential at 33 Walters Road and compensate owners	Social

ATTACHMENT FOUR

ADDITIONAL INFORMATION POST NOR NOTIFICATION

TE TUPU NGĀTAHI
SUPPORTING GROWTH

Takaanini Level Crossings

Appendix H – Design report

June 2023

Version 0.4

Document Status

Responsibility	Name
Author	Bruno Busnardo Gregory Pinches Justin Kirkman Vinay Maan Wiehan Kusel
Reviewer	Rob Mason/ Georgia Cottrell
Approver	Georgia Cottrell

Revision Status

Version	Date	Reason for Issue
0.1	5th August 2022	Draft for review
0.2	4th October 2022	Issue for Owner Participant Subject Matter Expert Review
0.3	1st February 2023	Issue for IQA review
0.4	19th June 2023	Design Revision

Disclaimer

This is a draft document for review by specified persons at Auckland Transport and the New Zealand Transport Agency. This draft will subsequently be updated following consideration of the comments from the persons at Auckland Transport and the New Zealand Transport Agency. This document is therefore still in a draft form and is subject to change. The document should not be disclosed in response to requests under the Official Information Act 1982 or Local Government Official Information and Meetings Act 1987 without seeking legal advice.

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Appendix D – Road Safety Audit Exemption

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Tables

Acronym/Term	Description
AC	Auckland Council
AGRD	Austroads Guide to Road Design
AMC	Active Modes Corridor/Connection
ASD	Approach Sight Distance
AUP	Auckland Unitary Plan
AT	Auckland Transport
DBC	Detailed Business Case
LIDAR	Light Detection and Ranging
MSE	Mechanically Stabilised Earth
NIMT	Northern Island Main Trunk (Rail)
NZGD	New Zealand Geotechnical Database
NZTA / WK	Waka Kotahi New Zealand Transport Agency
NZTM	New Zealand Transverse Mercator
SGA	Te Tupu Ngātahi Supporting Growth Alliance
SMAF	Stormwater Management Area Flow
SSD	Stopping Sight Distance
TDM	Transport Design Manual

1 Introduction

This document has been prepared as Appendix H of the Takaanini Level Crossings Detailed Business Case. It has been prepared to document the design development principles behind the concept designs within the Takaanini Level Crossings transport network. The concept design is then used as a basis of designation setting as it provides the likely footprint of the new infrastructure.

The design report has been developed with technical inputs from a wide range of engineering design specialities including traffic, geometric, geotechnical, stormwater, urban design, road safety and structures.

The Takaanini Level Crossings detailed business case identifies the construction of the transport network to occur within a 10-15 year time frame. It is therefore anticipated the concept design contained in this document will be revised and reconfirmed at that time of implementation to reflect any changes in standards, planning conditions, network demands, and/or any other construction related matters.

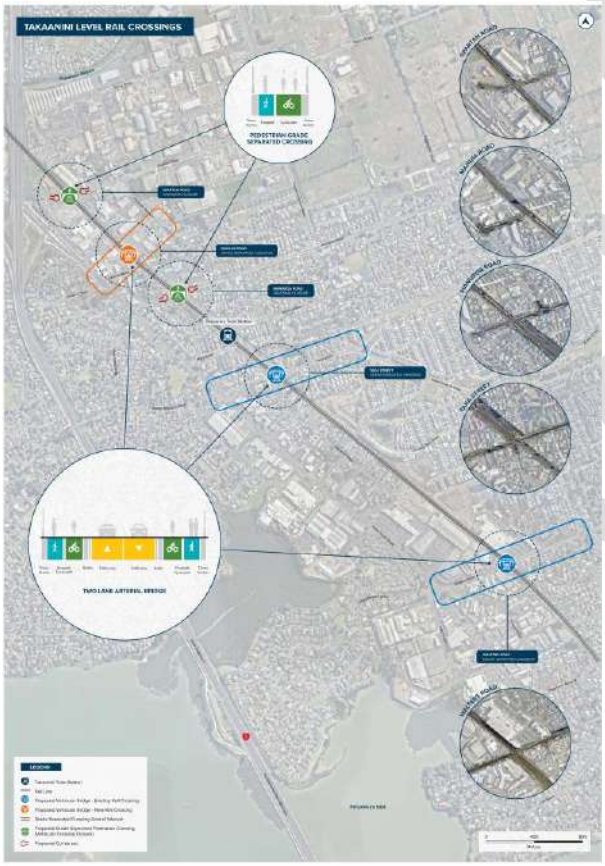


Figure 1-1 Level crossings transport network map

2 Approach to design

Te Tupu Ngātahi Supporting Growth Alliance (the Alliance) has been established to provide route protection of strategic transport infrastructure to support the future growth of Auckland. As such, most of the projects within the Programme will not be constructed for several years, and it is anticipated that the preliminary design will need to be revised at that time to reflect the standards, transport demands, and requirements. Therefore, the design to support the option assessment process and the cost estimate will be limited to a level that supports the designation footprint, effects, and a number of generic assumptions will be made.

There are several design elements that will not be considered in the development of designs for both the concept and recommended option design development as they will not inform the assessment of effects. The design elements where there will be no specific design developed are as follows:

- Pavement design and road surfacing
- Street lighting
- Road safety barriers
- Utilities design
- Signs and line markings
- Traffic signal design
- Advanced Traffic Management Systems (ATMS) requirements
- Intelligent Traffic Systems (ITS)
- Landscape design, and
- Urban streetscape design features.

2.1 Topographical survey and aerial photography

2.1.1 Topographical survey

Light detection and ranging (LiDAR) is an optical remote-sensing technique that uses laser light to densely sample the surface of the earth, producing highly accurate x, y, z measurements. LiDAR data was provided by Land Information New Zealand (LINZ) and has been used to develop the preliminary design for the road corridors part of this package.

New Zealand Transverse Mercator (NZTM) projection is the coordinate system for the project. The vertical datum is named AUK46, obtained from Auckland Council.

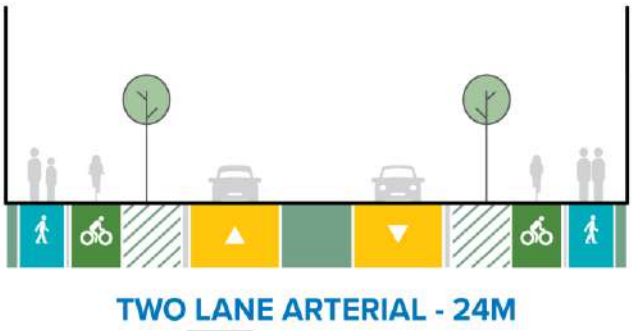
2.1.2 Aerial photography

The aerial photography is provided by Nearmap Ltd. The orthophotography flown over the southern area twice yearly, imagery at present is from March 2022. Imagery supplied as 7.5cm pixel resolution – resampled to 10cm pixel resolution for download.

2.2 Corridor form and function

The **Table 1** provides a summary of the form and function of the corridors.

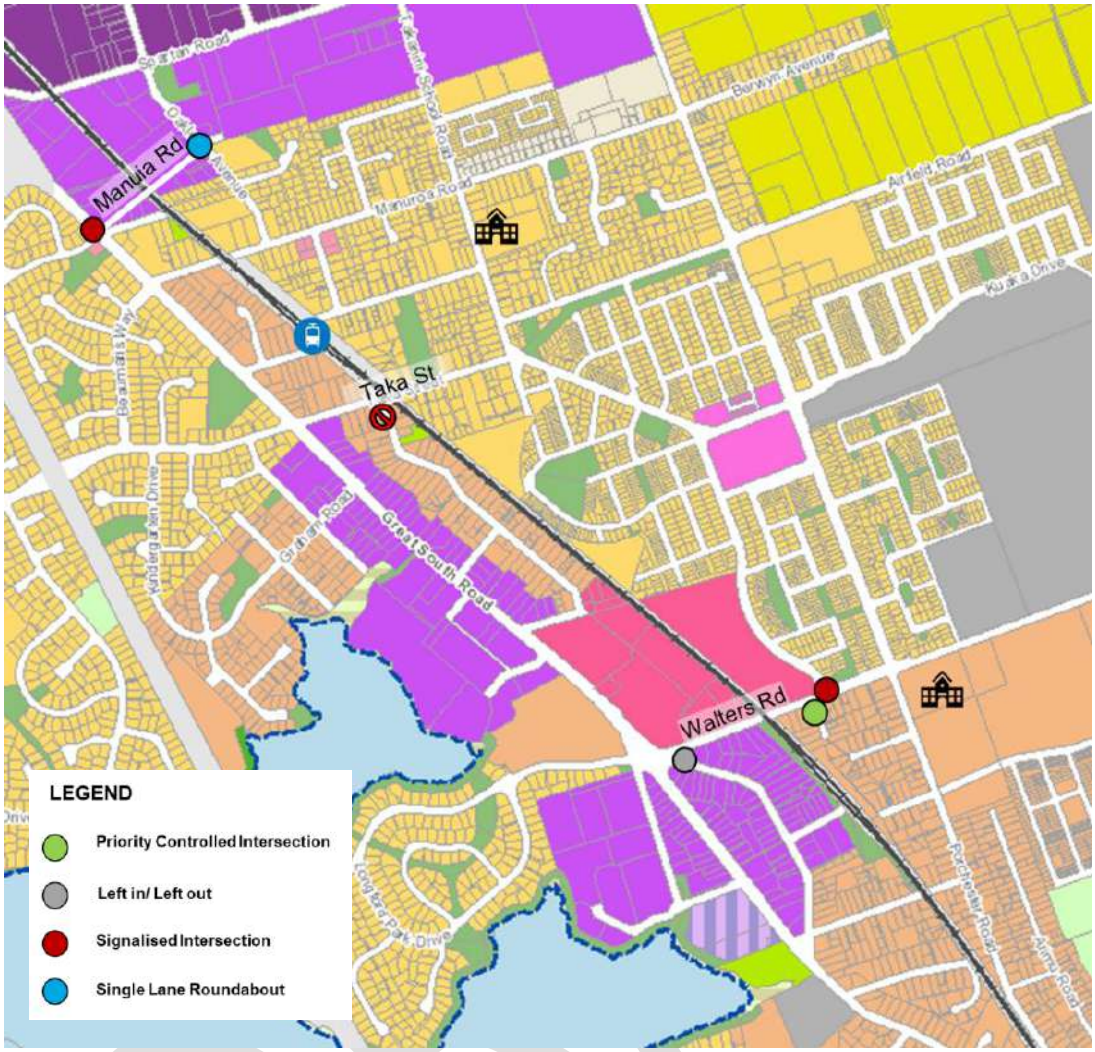
Table 1 Summary of the form and function

Typical section areas	Typical cross section
Mainline corridor typical section	
Bridge typical section	
Active modes bridge typical cross section	

2.3 Intersection Form and Function

Figure 2-1 provides a summary of the proposed intersection forms. Refer to the Appendix G Transport Outcomes Report within the Detailed Business Case for further details regarding intersection form and function of the corridor.

Figure 2-1: Takaanini level crossings indicative intersection forms



2.4 Access and driveways

All existing alignments and the new alignment at Manuia Road are required to provide access to the adjacent lots, to prevent the landlocking of parcels. Where this is not possible, the full parcel is included in a designation. Service lanes are to be provided in areas where access is being restricted due to vertical level differences of the new vertical alignment (bridge) over the rail line. In other locations where there is limited change to vertical levels, accessways are generally to be retained and modified to suit changes to the roadside including active modes.

The approach to turn movements into and out of accessways varies. Various options exist, including restriction of turn movements into accessways to left-in left-out only, allowing unrestricted access (no flush median) or unrestricted access (with flush median). Some safety benefits can be achieved by restricting right turn movements, although this may create distance delays for drivers. Provision of a full width flush median for sheltering of turning vehicles would further increase the size of the designation. The design provides flexibility for future exploration of different solutions as best suited for the location, at implementation.

Design checks for accessways onto the proposed road corridor have been carried out in accordance with the Auckland Unitary Plan (AUP) E27. Transport.

2.5 Clearance envelope

The following clearance envelopes are to be taken into consideration when designing the grade separated corridors, as set out in Table 2.

Table 2 Clearance envelope

Items	Clearance envelope	Considerations
Road over rail	Allow for 26.8 or 28.8m* minimum horizontal clearance and 7.8m vertical clearance to road surface envelope ** Horizontal width of four-tracking is dependent on assumed alignment of future tracks in relation to existing tracks, see* Table 3.	Horizontal clearance to accommodate rail four tracking, consisting of: • 4m between paired rail tracks (existing rail tracks or future rail tracks when on a single side of existing tracks) • 6m between existing rail tracks and future rail tracks • 6.4m beyond outside track centrelines Vertical clearance consisting of: • 0.2m rail height above sleepers/ballast • 5.5m rail vertical clearance envelope, according to KiwiRail standards* • 2.1m for bridge superstructure (deck + beam) and surfacing ** Vertical clearance can taper down from 5.5m clearance for the extent of horizontal envelope, at 0.5m from outermost rail centreline down to 3.25m height above rail at 2.3 m from centreline of track. Refer to KiwiRail Track Standard: T-ST-DE-5212 Clearances, Appendix 1 Fixed Structure Gauge - Standard Drawing 300157.*
Active modes bridge over rail	Allow for 26.8 or 28.8m* minimum horizontal clearance and 7.8m vertical clearance to road surface envelope ** Horizontal width of four-tracking is dependent on assumed alignment of future tracks in relation to existing tracks, see* Table 3.	Horizontal clearance to accommodate rail four tracking, consisting of: • 4m between paired rail tracks (existing rail tracks or future rail tracks when on a single side of existing tracks) • 6m between existing rail tracks and future rail tracks • 6.4m beyond outside track centrelines Vertical clearance consisting of: • 0.2m rail height above sleepers/ballast • 5.5m rail vertical clearance envelope, according to KiwiRail standards* • 2.1m for bridge superstructure (deck + beam) and surfacing • ** Vertical clearance can taper down from 5.5m clearance for the extent of horizontal envelope, at 0.5m from outermost rail centreline down to 3.25m height above rail at 2.3 m from centreline of track. Refer to KiwiRail Track Standard: T-ST-DE-5212 Clearances, Appendix 1 Fixed Structure Gauge - Standard Drawing 300157.*
Vehicle passage under bridge	Allow 10m horizontal clearance and 7m vertical	Horizontal clearance to accommodate two lane service lane with allowance for active modes and vehicle tracking.

Items	Clearance envelope	Considerations
	clearance to road surface envelope	5m vertical clearance envelope including surfacing according to AT TDM GD0001
Pedestrian and cyclist passage under bridge	Allow passage under the bridge otherwise blocked by physical fencing or retaining.	

The clearance required for both the road and the active mode crossings of the NIMT is based on the clearance envelope in Table 2 above and Figure 2-2 below. The horizontal envelope consists of 4m between existing track centrelines and 4m between future track centrelines when on a single side of the existing tracks. A 6m offset is provided between existing tracks and future tracks. A 2.75m minimum offset is required beyond the track centreline as per KiwiRail Track Standard: T-ST-DE-5212 Clearances, Appendix 1 Fixed Structure Gauge - Standard Drawing 300157. An additional 3.65m width is provided beyond this for a total width of 6.4m from outside track centreline. This allows an increased width of 3.5m from track centreline to an access track of 2.5m width, with 400mm buffer. The buffer is sufficient to allow physical separation between rail track and access track, if required.

Figure 2-2 General clearance requirements for four-tracking, with two future tracks to one side of existing tracks (top) and a future track to either side of existing tracks (bottom).

The assumed future track alignment at each of the rail crossings is summarised in Table 3 below.

Table 3 Assumed future rail track alignments.

Rail crossing	Assumed future track arrangement	Minimum horizontal clearance
Spartan Road	New track to either side of existing tracks	28.8m
Manuia Road	New track to either side of existing tracks	28.8m
Manuroa Road	New track to either side of existing tracks	28.8m
Taka Street	Two new tracks to the east of existing tracks	26.8m
Walters Road	New track to either side of existing tracks	28.8m

The constraints and designation do not preclude improvements to clearance envelopes as required during design. Further flexibility should be explored during next phase of the design, based on the structural design, KiwiRail standards, and future improvements on the rail line. A possible solution to improve horizontal clearance is inclusion of a bridge pier within the rail corridor, subject to KiwiRail approval. This would allow a rail clearance envelope to either side of the pier, increasing the total horizontal clearance. A further alternative option is to reduce the width of, or exclude, the NIMT access tracks from the clearance envelope beneath the clear span over the NIMT and instead locate on the outer sides of the piers.

2.6 Geometric design

2.6.1 Roading geometric design

The **Table 4** describes the key elements of the geometric design from a roading point of view.

Table 4 Approach to geometric design

Design element	Approach to design	Comments
Cross section	As per section **2.2** of this report	N/A
Posted Speed	50km/hr	N/A
Design Speed	Horizontal – 50km/hr Vertical – 50km/hr	As per TDM Geometric design
Horizontal alignment* *Excludes design specific to intersections and accessways	Minimum radius 120m for minimum curve length of 70m. This allows 3.0% adverse crossfall to be applied.	As per AGRD Part 3

Design element	Approach to design	Comments
Vertical alignment	Grade: • Desirable maximum grade of 8% Minimum crest curve: • K=6.8 Minimum sag curve: • K=6	Maximum grade as per TDM without requiring specific treatment for pedestrian routes. Minimum crest curve as per AGRD Part 3. Governed by sight distance requirements. Minimum sag curve as per AGRD Part 3. Governed by comfort requirement and conforms with increased design speed of 60km/h.
Clearance envelope	As per section **2.5** of this report	N/A
Accessway and driveways	As per section **2.40** of this report	N/A
Signalised intersections	Intersection form and stacking lanes details are as per Appendix G Transport Outcomes Report.	Splitter islands are to be added on the mainline corridor in a case by case scenario assessed by the designer.
Single lane roundabout	ICD of 41m for single lane roundabout within existing urbanised area.	The typical section of an ICD of 41m consists of the following: • 11m central island radius • 9.25m circulating carriageway width. Roadside width of 5.75m: • 1.25m front berm/buffer • 2m cycleway • 2m footpath • 0.5m back berm
Uncontrolled intersections	To utilise the existing geometry as much as possible.	N/A
Slope embankment and retaining walls	As per section 2.7 of this report.	N/A
Cul-de-sac	• Horizontal and vertical alignment to be retained except minimal changes as required to construct cul-de-sac • Allow for semi-trailer (industrial) for all level crossing closures (width, radii and rounded turning head)	As per TDM Geometric design

2.6.2 Active modes bridge and ramp design

Table 5 describes the key elements of the geometric design for the active modes bridge and ramp.

Table 5 Approach to active modes bridge and ramps design

Design element	Approach to design	Comments
Cross section	As per section **2.2** of this report	N/A
Clearance envelope	As per section **2.5** of this report	N/A
Ramps	Consisting of 9m* ramps at 1:12 vertical grade and 5m* landings at 1:50 vertical grade. Design has considered ramp width of 4m with 300mm allowance on sides for fencing, as per Table 1. **Includes 1m transition curve at each interface for transition curves of 2m total length.*	As per New Zealand Standards for Access and Mobility and AT TDM. Design is to take conservative elements from both standards to provide a design suitable for both wheelchairs and cyclists.
Stairs	Stairways assumed to consist of four flights of stairs at 3.3m length with landings of 1.8m minimum between flights. Design has considered stairway width of 4m.	Design to be developed further as per building code and AT TDM.

2.7 Geotechnical design

2.7.1 Slope stability

No numerical analysis has been carried out in this phase of design, with assessment based on review of recent and historic investigation data. Stability of slopes has been assessed based on the mapped geomorphology, and the performance of similar geological areas.

1V:3H slopes have been adopted as the default batter for cut and fill slopes to meet maintenance requirements. Within the Auckland region, similar slopes have been widely utilised successfully in soils that do not have known slope instability issues.

1V:5H slopes have been adopted in areas underlaid by soft soils/peat with the maximum embankment height of 2m. Mechanically stabilised earth walls or bridge structure is to be provided once maximum height is achieved.

2.7.2 Retaining walls

Vertical retaining walls have been placed where necessary to limit impact on properties and manage topographic constraints. Fill walls have been assumed to be constructed using generic mechanically stabilised earth techniques.

Given the limited geotechnical information available, retaining walls were detailed as typical with the most suitable wall types identified to inform the construction method statement and cost estimation.

Final decisions around wall type will be undertaken during subsequent design phases once further site investigation is carried out.

2.7.3 Bridge abutments

Vertical abutment walls have been adopted as the default approach to bridge abutments within the existing urbanised/industrial area. The vertical abutment walls have been assumed to be constructed using mechanically stabilised earth walls.

No specific design of abutment walls slope stability has been carried out during this phase of design.

2.8 Structures design

Given the high-level nature of design input, the route protection philosophy is that no preliminary or detailed design is undertaken for the structures, but the basic structural form (Span, deck type and substructure configuration) defined to confirm viability of the chosen alignment and designation. Abutment forms are designed as vertical walls and bench-type atop cut faces. Refer also to section **2.7.3** for information at bridge abutments.

The philosophy with regards to bridge superstructure form is to utilise standard precast concrete girders with cast in-situ topping slabs. This is to ensure that the bridges can be designed and constructed using readily available building materials and standard forms.

Bridge skew angles are limited to a maximum of 30 degrees relative to the service being crossed. This is to ensure that no standard bridge design is precluded from future detailed design. Typically, girder type and box type bridge decks are only suitable up to skews of 30 degrees.

The design approach is to provide equal spans for road over road and road over rail bridges to have backspan to mainspan ratios of between 0.6 and 0.8. The chosen structural articulation is as follows:

- Single span bridges up to a maximum structure length of 35 m
- Multi-span bridges for structure lengths exceeding 35 m, or as dictated by geometric constraints.

For pedestrian and active mode bridges, the approach to design is very similar to that for vehicular bridges. Access ramps consist of both stairs and ramps to ensure universal access across the service being spanned. Refer to section 2.6.2 for geometric design considerations towards ramps, clearance and stairs.

2.9 Stormwater Design and Flooding

Stormwater design includes four separate yet related considerations:

- stormwater runoff capture / conveyance system design,
- treatment design (water quality mitigation),
- water quantity design (hydrologic mitigation) and
- flood effect mitigation (peak flow increase and displacement effects).

Each of these stormwater design features are prescribed for management within Auckland Council Guidelines and/or required by the Unitary Plan - Operative in Part (AUP:OP). The Auckland Design Manual, the Auckland Transport Design Manuals and the Unitary Plan are the key documents that govern the stormwater design approach.

In general, the key stormwater objectives are to provide stormwater treatment and retention/detention for new impervious surfaces, re-use and re-purpose existing infrastructure, enhance with green infrastructure and provide treatment of existing surfaces where possible, including where existing runoff mixes with new prioritising high loading areas such as intersections.

2.9.1 Stormwater runoff capture and conveyance

The Road Drainage chapter of the Auckland Transport Design Manual sets out the performance requirements for stormwater capture and conveyance systems for local roads in Auckland. The details of this system shall be developed and confirmed at the resource consent application phase of the project. The approach for each new road section will require a kerb and channel along the road edge with a concrete barrier at the bridge sections to intercept road runoff. The intercepted flow will be captured in catchpits and conveyed via a new piped network to a stormwater treatment, detention, and attenuation system.

2.9.2 Stormwater treatment and hydraulic mitigation

Stormwater runoff is considered polluted when flowing from high vehicle use impervious areas. The Auckland Unitary Plan (AUP), chapter E9 considers the construction of roads, up to 5000m² of new impervious road area, as a permitted activity and treatment is required in accordance with Guidance Document 2017/001 Stormwater Management Devices in the Auckland Region (GD01). Raingardens/bioretention systems, planted or grassed swales, wetlands and proprietary cartridge treatment systems are common practice to meet this requirement.

Hydrologic mitigation refers to the detention and slow release of stormwater runoff to prevent downstream erosion. The Auckland Unitary Plan E10 defines the approach detention as either SMAF1 or SMAF 2. SMAF is an acronym for Stormwater Management Area Flow and generally refers to control overlay in the unitary plan where the requirement is identified based on downstream environment sensitivity. However, AUP:OP chapter E8 contains a trigger for restricted discretionary activities that require SMAF 1 hydrologic mitigation regardless of being in the SMAF control overlay or not.

Each of the three rail overpass road sections are under the 5000m² of new impervious area and are considered permitted activities if consented individually. This would mean only road runoff treatment is required. If consented as a whole and the areas of new impervious surface are combined, this will trigger the restricted discretionary activity controls and require hydrologic mitigation. In this event, treatment and detention will be required.

2.9.3 Flood effect mitigation

Flood effects can arise by blocking overland flowpaths, adding new impervious area (reducing the soil storage capacity) and by displacing flood storage, typically by filling earth in the floodplain. Two approaches are available to assessing and mitigating flood effects:

1. Utilising the existing Auckland Council Flood model to calculate the effects and iterate a mitigation solution that could include, offset storage, culverts or both.
2. Providing a compensatory volume of 1m³ of fill in the floodplain equal to 1m³ of offset storage as compensation.

The floodmaps shown on the Auckland Council GIS indicate that there is extensive floodplain upstream (northeast) of the Northern Island Main Trunk (NIMT) railway line. However, modelling by

the SGA team as part of a nearby project had indicated that the Auckland Council GIS is not accurate, and the official Council model show considerably less flooding in each of the three project locations. further commentary is made in each road section. All earthworks in flooded regions are potential sources of flood effects and may require mitigation.

3 Spartan Road

The level crossing removal at Spartan Road requires a cul-de-sac head on either side of the rail corridor to allow vehicles to turn. A grade separated active mode connection (AMC) is proposed to replace existing facilities at grade. Figure 3-1 highlights the vertical clearance provided between the AMC and the NIMT. Vertical transition curves are not illustrated in the figure below.

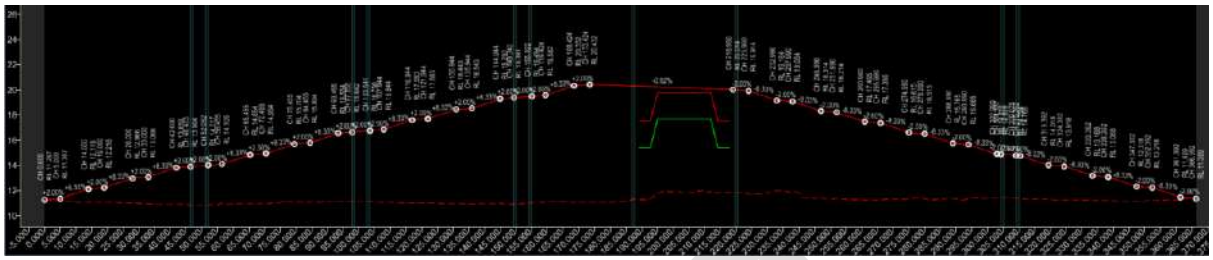


Figure 3-1 Spartan Road AMC vertical alignment.

Table 6 describes the key elements of the works at Spartan Road.

Table 6 Spartan Road design road closure and active modes bridge

Design item	Comments
Cul-de-sac	Turning head dimensions adopted as per **Table 4**. The design also includes a 1.25m front berm, 4m shared use path and 0.5m back berm.
Active modes bridge	Bridge across future 4-tracked NIMT, crossing the railway line perpendicular to minimise the bridge span. 30m minimum span to suit horizontal clearance requirements as per Table 2. Bridge structure consisting of precast Super-T beams with in-situ topping slab. Piers are single column-type with a capping beam at the top All supports are founded on piles. Main bridge span across the railway line to be fitted with compliant electrification / anti-throw screens
Ramps	Designed as per Table 5. West: • Three lengths of three ramps, beginning at cul-de-sac • One length of one ramp, connecting to rail crossing East: • One length of four ramps, beginning at cul-de-sac • One length of six ramps, connecting to rail crossing The same structure form for the bridge is applied at the ramps. 1.8m high pedestrian railings are to be provided at both edges of the path.
Stairs	Designed as per Table 5.

No stormwater system has been designed as part of the cul-de-sac and active modes bridge work.

Geological maps indicate that the entire alignment is underlain by undifferentiated sedimentary deposits of the Takaanini Formation (refer to Appendix B on this report), which is the proposed new name for what has formerly been called the Puketoka Formation and is assigned to the broader classification, the Tauranga Group. In the Takaanini area these deposits are characterised by the presence of some rhyolitic pumice originating from volcanic airfall but are likely to be dominated by alluvial clays and silts of variable stiffness, with minor layers of sands and organic materials. At depth below these strata will lie interbedded sandstones and siltstones of the East Coast Bays Formation. The maps indicate that the western limit of the soft and compressible peat soils characteristic of eastern areas of Takaanini (the Ardmore Peat) does not encroach on the alignment.

Historic geotechnical investigation logs obtained from the New Zealand Geotechnical Database (NZGD) confirm the interpretation from the geological maps. The log of a drillhole (BH_89130) sunk 125m to the west of the rail crossing (at the Southern Motorway offramp bridge) proved stiff clayey silt with minor sand of the Tauranga Group extending to 4.5m depth. This is underlain by weathered East Coast Bays Formation, transitioning into sandstone rock at 8.5m depth. The nearest hole in the NZGD to the east of the level crossing is a hand auger 340m away (HA_DCP_138313) which proved very stiff silt, either clayey or sandy, of the Tauranga Group (Takaanini Formation), to at least 5m depth.

The available geological information supports the default design for earthworks. Piled foundations into the East Coast Bays Formation will work easily if needed. Should design only impart light loads to the ground, the possible use of shallow foundations might be achievable if confirmed by targeted local geotechnical investigations.

4 Manuia Road

The Manuia Road road/rail grade separation is a new East-West crossing of the NIMT that connects Great South Road at Challen Close to Oakleigh Avenue at Hitchcock Road. The new link is approximately 300m long and consists of a single span bridge crossing the NIMT.

Works on Manuia Road include an upgrade of the Great South Road intersection to a signalised intersection, improvements to capacity with changes to the lane arrangement and improvements to active modes. The intersection of the Manuia Road crossing with Oakleigh Avenue is proposed as a four-legged roundabout including Hitchcock Road.

The existing Manuia Road alignment services several properties. The new Manuia Road alignment will include a left-in left-out intersection with the historical alignment to retain access to the properties.

Figure 4-1 below shows the Manuia Road design with works on adjacent intersections. Figure 4-2 highlights the Manuia Road grade separation vertical alignment achieving clearance requirements.

Figure 4-1 Manuia Road design

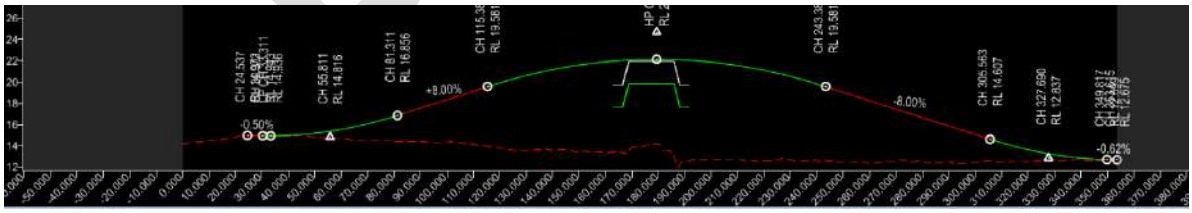


Figure 4-2 Manuia Road vertical alignment

The **Table 7** describes the key design elements of the Manuia Road

Table 7 Manuia Road design

Design item	Comments
Cross section	24m two lane arterial as per Table 1 for new corridor. Median and berm widths to vary along corridor to tie into adjacent intersections and bridge.
Horizontal alignment	Single tangent connecting intersection of Great South Road and Challen Close with Oakleigh Avenue and Hitchcock Road.
Vertical alignment	Grades: • 8% maximum • 0.5% minimum Transition curves: • Crest K-value of 8 • Sag K-value of 6
Intersections	Great South Road (and Challen Close) • Intersection to be signalised • Manuia Road to be realigned and widened with two approach lanes • Great South Road lane arrangement to be revised with some road widening and active mode improvements • Intersection sight distance requirements remain achieved based on proposed Manuia Road vertical alignment Manuia Road (existing) • Existing Manuia Road to be realigned and connected to new Manuia Road alignment • New priority controlled intersection • Intersection sight distance requirements achieved based on proposed Manuia Road vertical alignment Oakleigh Avenue (and Hitchcock Road) New roundabout with four-legs • Active mode roadside and crossing improvements • Intersection sight distance requirements achieved based on proposed Manuia Road vertical alignment
Accessways	Existing accessways along Manuia Road to be retained and limited access are to be maintained along the new road corridor.
Manuia Road (existing road segment)	Left-in left-out priority controlled intersection with new Manuia Road alignment.
Embankment slope	Geological maps indicate that the entire alignment is underlain by undifferentiated sedimentary deposits of the Takaanini Formation (formerly the Puketoka Formation) and is assigned to the broader classification, the Tauranga Group. In the Takaanini area these deposits are characterised by the presence of some rhyolitic pumice originating from volcanic airfall but are likely to be dominated by alluvial clays and silts of variable stiffness, with minor layers of sands and organic materials. At depth below these strata will lie interbedded sandstones and siltstones of the East Coast Bays Formation. The

Design item	Comments
	maps indicate that the western limit of the soft and compressible peat soils characteristic of eastern areas of Takaanini (the Ardmore Peat) does not encroach on the alignment. The NZGD log from a historic geotechnical investigation hole (BH_70547) lying 100m south of where the proposed bridge crosses the railway is consistent with the interpretation from the geological maps.). Firm to stiff clay, of the Tauranga Group (Takaanini Formation), was proved to at least 6m depth. There are no other holes shown on the NZGD within 300m. The available geological information supports the default design for earthworks, i.e. embankment batters of 1V:3H. Piled foundations into the East Coast Bays Formation should be feasible. Local geotechnical investigations will be needed to assess the geotechnical characteristics of the Takaanini Formation soils, indicate what depths foundations may need to be taken to and confirm the earthworks design approach. The possible presence of some soft soils beneath the approach embankments will potentially require some ground improvement, for example preloading with wick drains to reduce residual settlement to an acceptable degree. Monitoring with geotechnical instruments will be needed during and post-construction to track the rate of settlement and confirm that that ground distortion stays within tolerance. Refer to Appendix B for Geological map and historic geotechnical investigation logs from NZGD.
Bridge design	35m single span bridge crossing of NIMT. Maximum span of 35m and maximum skew of 30° (designed at 5° over NIMT). Single span to provide clearance as per Table 2 and structural design to comply with structural requirements Section 2.8.
Stormwater runoff capture and conveyance	Stormwater network designed as per item **2.9.1** of this report. The general solution for this design will be to intercept flow in the kerb and channel on either side of the road as it flows away from the road high point over the railway line. The water will be captured in a linear treatment system such as a raingarden, tree pit or a landscape integrated solution that may include both. The treated flow and bypassing flow in larger events will flow into the existing stormwater pipe network.
Stormwater treatment	Water quality treatment and detention is required by the Auckland Unitary Plan, Activity A1 of Chapter E8 and Activity A5 of Chapter E9. Based on this, raingardens, swales and wetlands are the best options to manage the pollutants of concern as discussed in GD01, propriety systems such as Filterra or cartridge systems will not perform the detention component of the solution needed. Raingardens integrated with a larger landscape plan would the preferred solution, sized and spaced in accordance with the calculations and principles of GD01.
Flood effect mitigation	Flood mitigation will be assessed, and mitigation proposed at a more advanced design phase. Figure 4-3 shows the modelled output from the latest Auckland Council InfoWorks ICM model for the Papakura Streat catchment. The flood extents and depths shown in this figure are for all depths greater than 50mm, depths less than this amount are considered sheet flow and not a flood hazard. This was previously written into the Auckland Council Stormwater Modelling Specification. However, this publication is no longer in effect ad no new criteria defines this threshold.

Design item	Comments
	The displacement effect of earthworks in this floodplain will be minimal and mitigation will be minor if required at all.

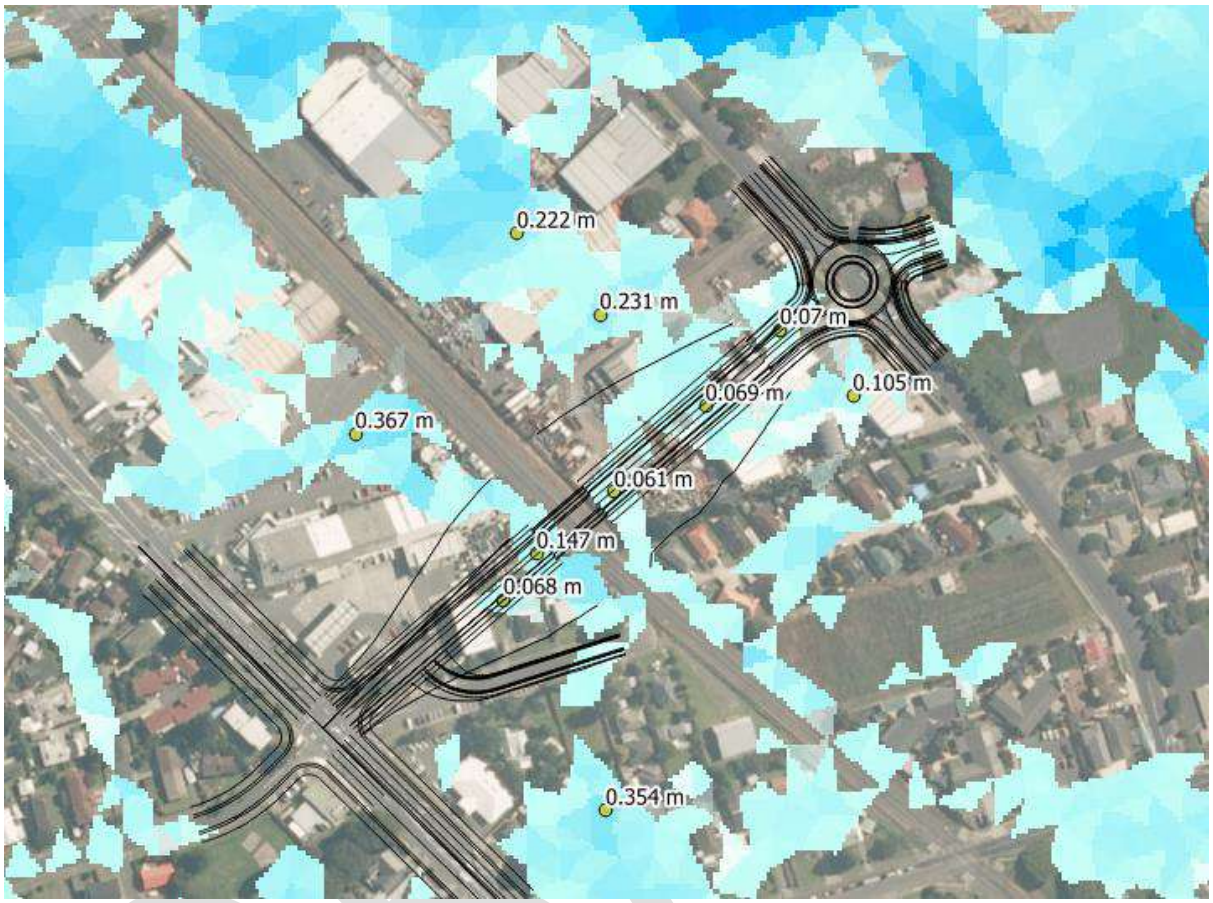


Figure 4-3: 1% AEP with climate change modelled flood depths >50mm

5 Manuroa Road

The level crossing removal at Manuroa Road requires a cul-de-sac head on either side of the rail corridor to allow vehicles to turn. A grade separated active mode connection (AMC) is proposed to replace existing facilities at grade. Figure 5-1 highlights the vertical clearance provided between the AMC and the NIMT. Vertical transition curves are not illustrated in the figure below.

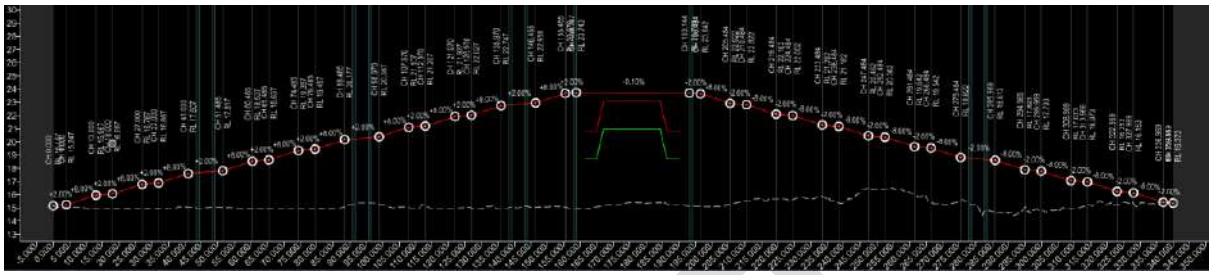


Figure 5-1 Manuroa Road AMC vertical alignment.

Table 8 describes the key elements of the works at Manuroa Road.

Table 8 Manuroa Road design road closure and active modes bridge

Design item	Comments
Cul-de-sac	Turning head dimensions adopted as per **Table 4**. The design also includes a 1.25m front berm, 4m shared use path and 0.5m back berm.
Active modes bridge	Bridge across future 4-tracked NIMT, crossing the railway line perpendicular to minimise the bridge span. 30m minimum span to suit horizontal clearance requirements as per Table 2. The bridge deck consists of precast Super-T beams with in-situ topping slab Piers are single column-type with a capping beam at the top All supports are founded on piles. Main bridge span across the railway line to be fitted with compliant electrification / anti-throw screens
Ramps	Designed as per Table 5. West: • Three lengths of three ramps, beginning at cul-de-sac • One length of one ramp, connecting to rail crossing East: • One length of four ramps, beginning at cul-de-sac • One length of six ramps, connecting to rail crossing The same structure form for the bridge is applied at the ramps. 1.8m high pedestrian railings are to be provided at both edges of the path.
Stairs	Designed as per Table 5.

No stormwater system has been designed as part of the cul-de-sac and active modes bridge work.

Geological maps indicate that the entire alignment is underlain by undifferentiated sedimentary deposits of the Takaanini Formation (formerly the Puketoka Formation and belonging to the larger scale Tauranga Group), refer to Appendix B on this report. The maps indicate that the soft and compressible peat soils characteristic of eastern areas of Takaanini (the Ardmore Peat) does not encroach on the alignment. However, a historic drillhole undertaken on the west side of Great South Road (BH_70546 in the NZGD) logged firm organic silt with fibrous organics from 2.4m depth to the base of the hole at 6.0m. Although these materials may not be as poor quality as in the centre of the deposit, this log implies that the western margin of the Ardmore Peat lies much further to the SW than shown on the geological maps and that the Manuroa Road pedestrian / cycle bridge is sited on the peat body.

The materials above and below the peat are likely to be stiff alluvial clays and silts of the Takaanini Formation (Tauranga Group) with some pumiceous content. At depth below these strata will lie interbedded sandstones and siltstones of the East Coast Bays Formation, the upper part of which may be weathered to a soil condition.

The potential presence of soft compressible organic soils under the bridge site and its approaches indicates that any foundations will need to be taken on piles down into the East Coast Bays Formation. This also means that earthwork embankments will need to be kept below 2m height and constructed with side slopes of 1V:5H if any earthworks are to be undertaken. Local geotechnical investigations will be needed to prove the geological sequence, confirm the ground properties, and identify the depths of suitable founding materials.

6 Taka Street

The Taka Street Road/rail grade separation will replace the existing level crossing of Taka Street. Taka Street is approximately 520m long and the crossing of the NIMT is proposed as a 230m multi-span structure.

Works on Taka Street exclude improvements to the Great South Road intersection or on the Kauri Heart Avenue/ Takanini School Road roundabout. The intersection of Taka Street with Takanini Road is proposed to be closed to the vertical level differences between the new Taka Street alignment and the existing Takanini Road alignment. Alternative options to raise the existing Takanini Road alignment were not progressed due to geometric issues, safety concerns, increased structural complexity, access restrictions and cost. As a mitigation for active mode users, an active mode passage is proposed to connect Takanini Road to the north to Maru Street and Takanini Station, and alongside Taka Street on the north to allow access to Great South Road or access to the new grade separated crossing.

The existing Taka Street alignment provides access to several properties. Service lanes are proposed to provide access to parcels that are vertically separated from the raised Taka Street alignment.

Figure 6-1 shows the Taka Street design. Figure 6-2 highlights the Taka Street grade separation vertical alignment achieving clearance requirements.

Figure 6-1 Taka Street design

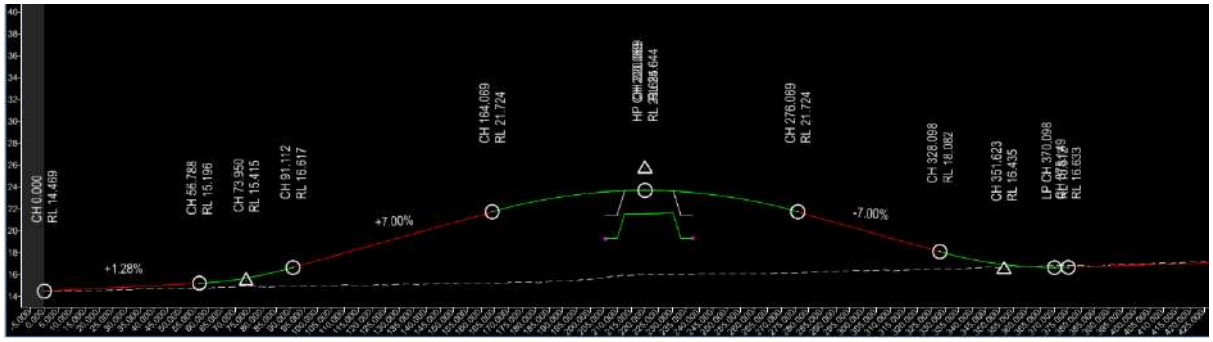


Figure 6-2 Taka Street vertical alignment

Table 9 describes the key elements of the works at Taka Street.

Table 9 Taka Street grade separated design

Design item	Comments
Cross section	3.8m traffic lanes, 2m cycleway and 2m footpath widths as per Table 1. Median and berm widths to vary along corridor to tie into adjacent intersections and bridge. Corridor at grade to the east of the NIMT widened to include a median of 1.8m width, allowing implementation of median island and tie into splitter island at roundabout. Walking, cycling and berms generally of 5.25m width, to be within existing road reserve where appropriate.
Horizontal alignment	Single tangent following existing centreline connecting intersection of Great South Road with Kauri Heart Avenue/ Takanini School Road.
Vertical alignment	Grades: • 7% maximum • 0.5% minimum Transition curves: • Crest K-value of 8 • Sag K-value of 6
Intersections	Great South Road (and Walter Strevens Drive) • Signalised intersection to be retained in its current form • Intersection sight distance requirements remain achieved based on proposed Taka Street vertical alignment Takanini Road • Existing priority controlled intersection to be closed • Takanini Road to be closed near existing intersection with a new cul-de-sac head • Cul-de-sac head to be sized as per AT TDM for a residential design vehicle Kauri Heart Avenue and Takanini School Road • Existing roundabout to be retained in its current form • Intersection sight distance requirements remain achieved based on proposed Taka Street vertical alignment

Design item	Comments
Service lanes	North-western service lane • Required to provide access to parcels grade separated from Taka Street on the north-west • Culminated with turning head as per AT TDM for a residential design vehicle • Median of sufficient width for further investigation of right turn pockets or left-in left-out restrictions South-western service lane • Required to provide access to parcels grade separated from Taka Street on the south-west • Provides secondary access to a single parcel • No turning head proposed • Median of sufficient width for further investigation of right turn pockets or left-in left-out restrictions Eastern service lane (North and South loop) • Required to provide access to parcels grade separated from Taka Street on the east • Service lane to be connected north to south by a link underneath Taka Street multi-span structure • Median of sufficient width for left-in left-out restrictions
Accessways & driveways	All other accessways at or near grade with Taka Street to be retained and reconstructed to suit active mode improvements.
Embankment slope	Geological maps indicate that the alignment to the west of the railway line is underlain by undifferentiated sedimentary deposits of the Takaanini Formation (formerly the Puketoka Formation and belonging to the larger scale Tauranga Group). The eastern side of the alignment is shown as extending over the area of swamp deposits classified as the Ardmore Peat. The NZGD records a line of hand augers through Taka Reserve. HA_130413, about 80m east of the railway records soft, wet peat from 0.9m to the base of the hole at 3.0m. Another line of boreholes recorded by NZGD straddling the rail line 275m to the SE and drilled for the Takaanini Wastewater project also confirm the presence of peat. For example, BH_71368 records amorphous peat from 1.95m depth to the base of the hole at 6.0m, initially stiff it becomes soft below 3.1m and with varying fibrous content. Interpolation between these holes and drillhole BH_70546 in St Aidan's Reserve 475m to the west indicates that the boundary of the swamp deposits is further west than mapped and that the Ardmore Peat body potentially underlies much of the alignment. Where the material is not peat it is likely to be stiff alluvial clays and silts of the Takaanini Formation (Tauranga Group) with some pumiceous content. At depth below these strata will lie interbedded sandstones and siltstones of the East Coast Bays Formation, the upper part of which may be weathered to a soil condition. The potential presence of soft compressible organic soils under the bridge site and its approaches indicates that any foundations will need to be taken on piles down into the underlying East Coast Bays Formation. Soft soils will also govern the height of earthwork embankments, which will need to be kept below 2m height and constructed with side slopes of 1V:5H. Even with embankment height restricted to maintain slope stability, it is likely that additional ground improvement measures will be needed to mitigate the effects

Design item	Comments
	of settlement, such as by installing wick drains or by stabilising the soils with rigid inclusions or stone columns. Local geotechnical investigations will be needed to confirm the indications from the NZGD, prove the geological sequence, measure the ground properties and identify the depths of suitable founding materials. Long-term monitoring will be required with geotechnical instruments to track post-construction settlement and confirm that the ground distortions are within tolerance. Refer to Appendix B for Geological map and historic geotechnical investigation logs from NZGD.
Bridge design	230m multi-span bridge crossing of NIMT. Multi-span structure to have maximum spans of 35m and maximum skew of 30° (designed at 30° over NIMT). Clear span over NIMT to provide clearance as per Table 2 and structural design to comply with structural requirements Section 2.8. Structure to provide clearance as per Table 2 for active mode connection (west) and service lane crossing of Taka Street alignment (east).
Stormwater runoff capture and conveyance	Stormwater network designed as per item **2.9.1** of this report. The general solution for this design will be to intercept flow in the kerb and channel on either side of the road as it flows away from the road high point over the railway line. The water will be captured in a linear treatment system such as a raingarden, tree pit or a landscape integrated solution that may include both. The treated flow and bypassing flow in larger events will flow into the existing stormwater pipe network.
Stormwater treatment	Water quality treatment and detention is required by the Auckland Unitary Plan, Activity A1 of Chapter E8 and Activity A5 of Chapter E9. Based on this, raingardens, swales and wetlands are the best options to manage the pollutants of concern as discussed in GD01, propriety systems such as Filterra or cartridge systems will not perform the detention component of the solution needed. Raingardens integrated with a larger landscape plan would the preferred solution, sized and spaced in accordance with the calculations and principles of GD01.
Flood effect mitigation	Flood mitigation will be assessed, and mitigation proposed at a more advanced design phase. Figure 6-3 shows the modelled output from the latest Auckland Council InfoWorks ICM model for the Papakura Streat catchment. The flood extents and depths shown in this figure are for all depths greater than 50mm, depths less than this amount are considered sheet flow and not a flood hazard. This was previously written into the Auckland Council Stormwater Modelling Specification. However, this publication is no longer in effect ad no new criteria defines this threshold. The displacement effect of earthworks in this floodplain will be minimal and mitigation will be minor is required at all.

Figure 6-3: 1% AEP with climate change modelled flood depths >50mm

7 Walters Road

The Walters Road road/rail grade separation will replace the existing level crossing of Walters Road. Walters Road between Great South Road and Porchester Road is approximately 590m long and the crossing of the NIMT is proposed as a 250m multi-span structure. Of the structure, 55m is proposed wider than as in Table 1 due to intersection lane requirements.

Works on Walters Road exclude changes to the Great South Road roundabout or Porchester Road roundabout. The intersection of Walters Road with Tironui Road is proposed to be modified to left-in left-out. The intersections of Walters Road with Arion Road and Braeburn Place are to be modified to provide sufficient width for intersection lanes and active modes.

The existing Walters Road alignment provides access to several properties. A two-way service lane is proposed to provide access to parcels that are vertically separated from the raised Walters Road alignment, with the ability to loop under the structure to provide connectivity.

Figure 7-1 below shows the Walters Road design. Figure 7-2 highlights the Walters Road grade separation vertical alignment achieving clearance requirements.

Figure 7-1 Walters Road design.

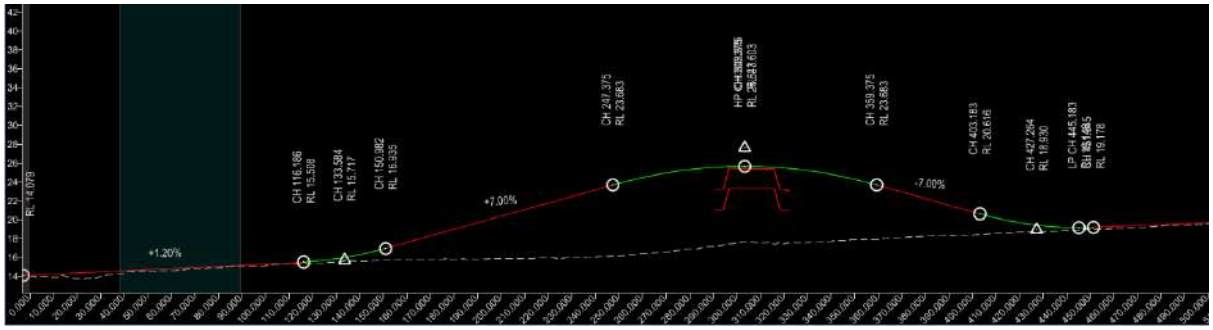


Figure 7-2 Walters Road vertical alignment.

Table 10 describes the key elements of the works at Walters Road.

Table 10 Walters Road grade separated design

Design item	Comments
Cross section	3.8m traffic lanes, 2m cycleway and 2m footpath widths as per Table 1. Median and berm widths to vary along corridor to tie into adjacent intersections and bridge. Berm generally of 5.25m width, as per 20m SGA generic cross section
Horizontal alignment	Single tangent following existing centreline connecting intersection of Great South Road through to Porchester Road.
Vertical alignment	Grades: • 7% maximum • 0.5% minimum Transition curves: • Crest K-value of 8 • Sag K-value of 6
Intersections	Great South Road (and side roads) • Existing roundabout to be retained in its current form • Intersection sight distance requirements remain achieved based on proposed Walters Road vertical alignment Tironui Road • Existing priority controlled intersection to be modified • Tironui Road to be made left-in left-out • Walters Road right turn pocket to be removed and replaced by raised median • Intersection sight distance requirements remain achieved based on proposed Walters Road vertical alignment Braeburn Place • Existing priority controlled intersection to be modified • Intersection of Braeburn Place to be shifted further south to suit Walters Road proposed edge of seal • Braeburn Place vertical profile to be raised to allow tie into proposed Walters Road vertical levels

Design item	Comments
	• Median along Walters Road of sufficient width to provide right turn pocket or raised island for left-in left-out restrictions • Intersection sight distance requirements remain achieved based on proposed Walters Road vertical alignment Arion Road • Existing signalised intersection to be modified to allow intersection lane development and active mode improvements • Intersection sight distance requirements remain achieved based on proposed Walters Road vertical alignment Porchester Road • Existing roundabout to be retained in its current form for grade separation works • Future form of intersection under investigation as part of Takaanini Frequent Transit Network scope • Intersection sight distance requirements remain achieved based on proposed Walters Road vertical alignment
Service lanes	Western service lane (North and South loop) • Required to provide access to parcels grade separated from Walters Road on the west • Service lane to be connected north to south by a link underneath Walters Road multi-span structure • Median of sufficient width for left-in left-out restrictions
Accessways & driveways	Access to the south-eastern parcels between NIMT and Braeburn Place cannot be provided without impacting on buildings. A new accessway may be designed in the future to provide access off Braeburn Place based on decisions around residual land use. All other accessways at or near grade with Walters Road to be retained and reconstructed to suit active mode improvements.
Embankment slope	Geological maps indicate that the entire alignment at Walters Road lies on an area of swamp deposits classified as the Ardmore Peat. The mapped western limit of these deposits is the roundabout with Great South Road. Although there are no exploratory holes along Walters Road itself, geological logs held in the NZGD for holes drilled in a complete arc around the site confirm the presence of soft compressible peat at each location. Consistent with the geological map it can be inferred that soft ground conditions apply throughout the alignment. Those holes in the NZGD which encountered peat were not taken deep enough to prove the base of the deposit. Only in Borehole_69660 on Great South Road, 250m to the south, was the base of the peat encountered at 1.4m depth. All the other holes were terminated without bottoming it at depths varying between 3.0m and 8.5m. It is interpreted that Borehole_69660 lies close to the edge of the deposit and that the base of the peat deepens to the east. For example, at Swamp Kauri Grove, 900m east, BH_138725 showed the soft peat transitioning into firm alluvial organic silt at 10.0m whereas at Papakura Military camp (1.1km away) BH_142677 indicates this transition is at 17.0m depth. In the area of the swamp deposits layers of other materials from the Takaanini Formation (Tauranga Group) are interlayered with the peat, especially near the surface, base and sides. These include silts and clays of varying stiffness and sands, which may be

Design item	Comments
	pumiceous. The East Coast Bays Formation occurs at depth; how deep this will be at the Walters Road site is unknown but at Swamp Kauri Grove it was first encountered at 17.2m, transitioning into a rock condition at 25.0m. The presence of soft compressible organic soils under the bridge site and its approaches indicates that any foundations will need to be taken on piles down into the underlying East Coast Bays Formation. Soft soils will also govern the height of earthwork embankments, which will need to be kept below 2m height and constructed with side slopes of 1V:5H. Even with embankment height restricted to maintain slope stability, it is likely that additional ground improvement measures will be needed to mitigate the effects of settlement, such as by installing wick drains or by stabilising the soils with rigid inclusions or stone columns. Where the site boundary is too close to allow the embankment toe to be 10m from the slope crest, an MSE retaining wall will be required. Local geotechnical investigations will be needed to prove the geological sequence, measure the ground properties and identify the depths of suitable founding materials. Long-term monitoring with geotechnical instruments will be required to track post-construction settlement and confirm that the ground distortions are within tolerance. Refer to Appendix B for Geological map and historic geotechnical investigation logs from NZGD.
Bridge design	250m (total length) multi-span bridge crossing of NIMT. Multi-span structure to have maximum spans of 35m and maximum skew of 30° (designed at 27° over NIMT). 55m minimum of total span at eastern extent of structure to be widened to allow road widening for intersection lane arrangement on Walters western approach to intersection with Arion Place. Clear span over NIMT to provide clearance as per Table 2 and structural design to comply with structural requirements Section 2.8. Structure to provide clearance as per Table 2 for service lane crossing of Walters Road alignment (west).
Stormwater runoff capture and conveyance	Stormwater network designed as per item **2.9.1** of this report. The general solution for this design will be to intercept flow in the kerb and channel on either side of the road as it flows away from the road high point over the railway line. The water will be captured in a linear treatment system such as a raingarden, tree pit or a landscape integrated solution that may include both. The treated flow and bypassing flow in larger events will flow into the existing stormwater pipe network.
Stormwater treatment	Water quality treatment and detention is required by the Auckland Unitary Plan, Activity A1 of Chapter E8 and Activity A5 of Chapter E9. Based on this, raingardens, swales and wetlands are the best options to manage the pollutants of concern as discussed in GD01, propriety systems such as Filterra or cartridge systems will not perform the detention component of the solution needed. Raingardens integrated with a larger landscape plan would the preferred solution, sized and spaced in accordance with the calculations and principles of GD01.
Flood effect mitigation	Flood mitigation will be assessed, and mitigation proposed at a more advanced design phase. Figure 7-3 shows the modelled output from the latest Auckland Council InfoWorks ICM model for the Papakura Streat catchment. The flood extents and depths shown in this figure are for all depths greater than 50mm, depths less than this amount are considered sheet flow and not a flood hazard. This was previously written into the

Design item	Comments
	Auckland Council Stormwater Modelling Specification. However, this publication is no longer in effect ad no new criteria defines this threshold. The displacement effect of earthworks in this floodplain will be minimal and mitigation will be minor is required at all.

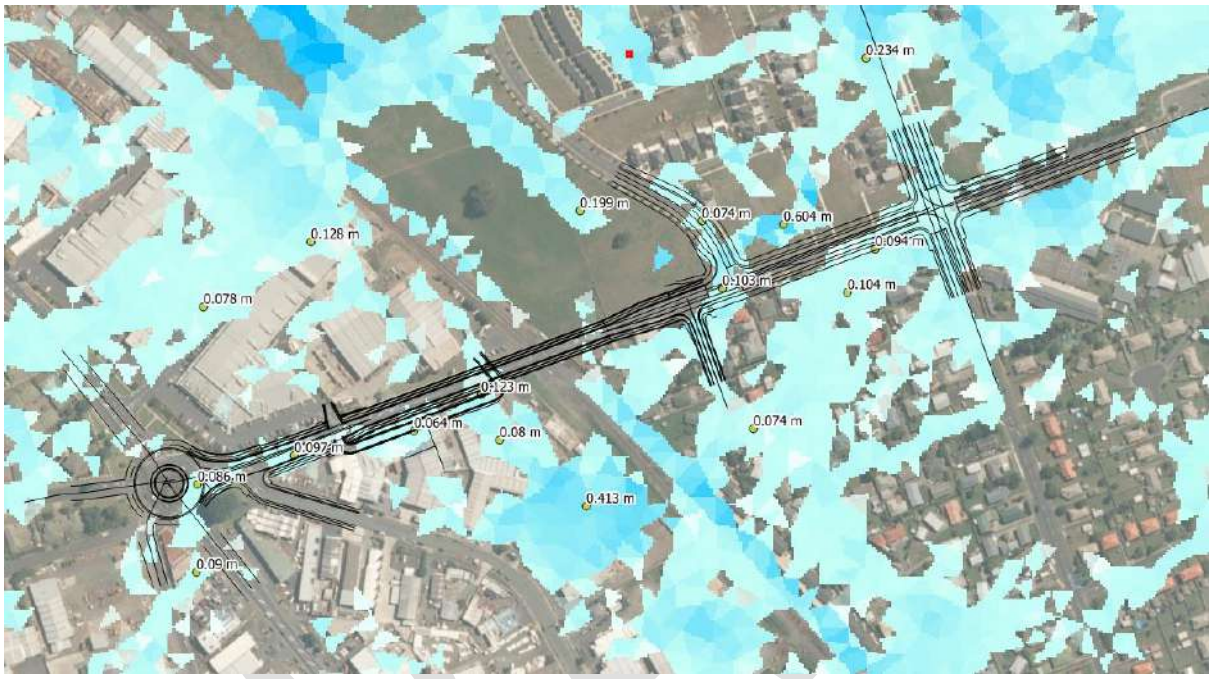


Figure 7-3: 1% AEP with climate change modelled flood depths >50mm

Appendix A - General arrangement plan

REV	REVISIONS	DRAWN	DATE

SURVEYED	N/A
DRAWN	
DRAWING CHECK	
DESIGN	
DESIGN REVIEW	
APPROVED	

TE TUPU NGĀTAHI
Supporting Growth

WAKA KOTAHI
NZ TRANSPORT AGENCY

Project: **SUPPORTING GROWTH PROGRAMME**
TAKAANINI LEVEL CROSSING DBC/NOR

Drawing Title: OVERALL LAYOUT PLAN

Drawing Status: **PRELIMINARY DESIGN**

Drawing Date: 21.06.2022

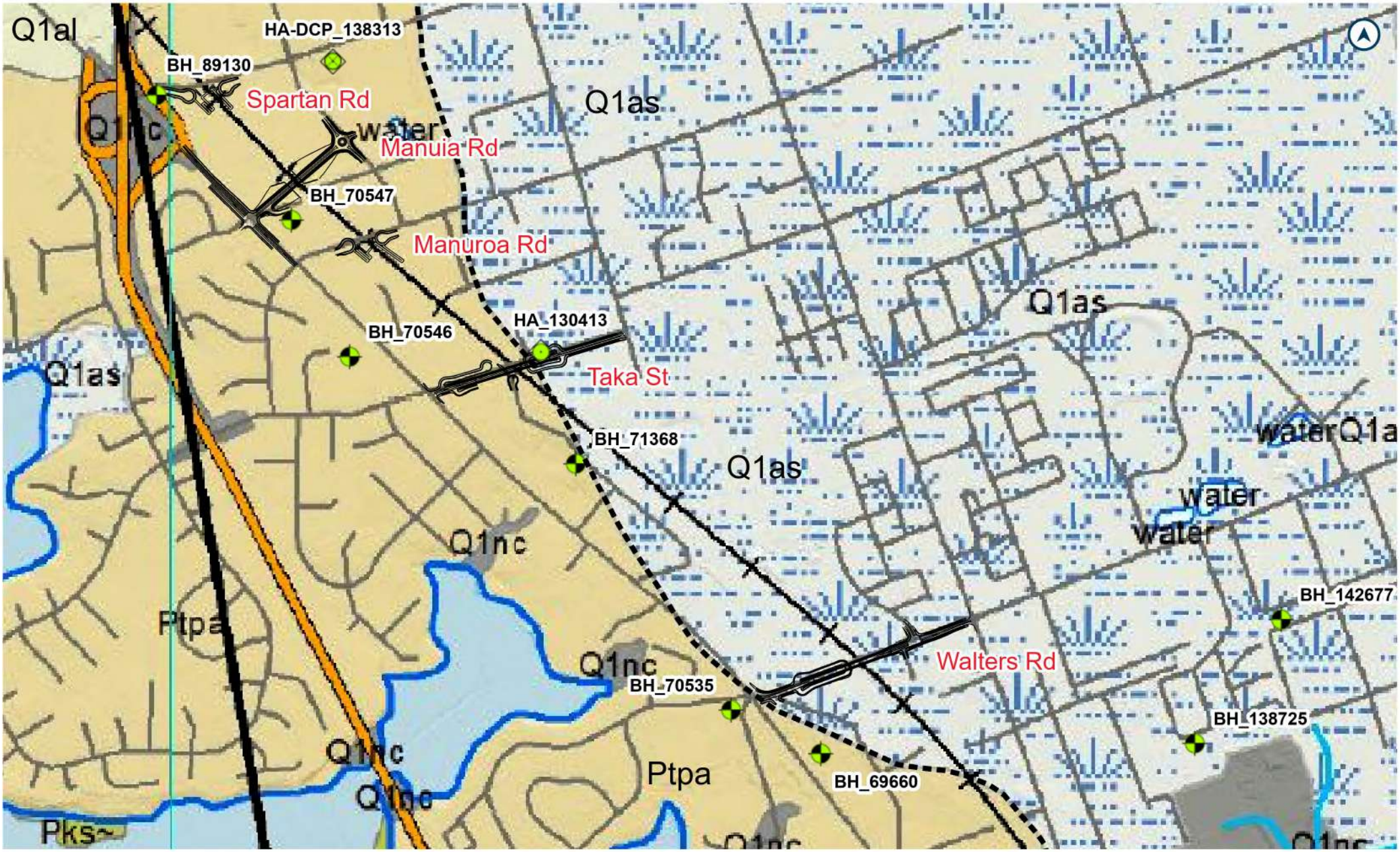
A1 Scales	NTS	A3 Scales	NTS

Discipline

Drawing No. SGA-DRG-STH-05-GE-1000

Revision B

Appendix B - Geological map and historic geotechnical investigation logs (NZGD)



LEGEND

- Borehole
- Hand Auger
- Hand Auger Scala
- Options Design

Key
Q1as Swamp Deposits (Ardmore Peat)
Q1nc Anthropogenic Deposits (man-made fill)
Q1al Alluvial Deposits (unconsolidated material)
Ptpa Takaanini Formation (mixed sediments)

Excerpt from Geological Map (1:50,000 Pukekohe, Draft 2021) showing locations of key investigation holes extracted from NZ Geotechnical Database.

0 150 300
Metres

Appendix C - Safety in design (SiD)

Safety in Design Risk Assessment Register

Author (Role): Vinay Maan (TLC Engineering Lead)

Approved By: Bruno Busnardo (SGA Engineering Lead) Date: 1 February 2023

Takaanini Level Crossings - Detailed Business Case

Revision: A

Project Name: Takaanini Level Crossings Detailed Business Case

Stage of Design / Project: Preliminary Design (Note: minimum of 2 reviews per project)

RISKS ASSOCIATED WITH DESIGN ELEMENTS					Risk Matrix			PROPOSED & APPROVED MITIGATION MEASURES	Mitigated Risk & Resolution						RESIDUAL RISK	
Ref	Hazard (Guideword)	Cause & Outcome	Are Human Factors (HF) involved?	Existing controls, if any	L	C	LR	Proposed Control (1 Eliminate, 2 Substitute, 3 Reduce, 4 Control)	L	C	LR	Risk Owner	Client Approved	Design Status	Date	Risk Owner	Action Required
1 Construction Phase																	
1.01	*Load / Force / Energy*	Proximity to electrified rail and overhead cables - potential plant strike and electrification of workers. Potential EMF transfer to conductive materials within close proximity to Pylon.	Yes - plant operators working too close to power sources.	KiwiRail rules and regulations for safe work distances, Contractors Safe Work Methodology	3	5	E	Bridge design to consider size of plant and overhead clearance constraints. Choice of materials to be considered for EMF discharge in proximity to Pylon. Not possible to relocate Pylon or overhead cables at this stage. Contractor to develop safe works methodology to address construction risk.	2	5	H	Detailed Designer / Construction Contractor		Open			
1.02	*Load / Force / Energy*	Damage to existing utility services (water, gas, power, comms, etc) during construction leading to potential gas leak / fire / electrocution / explosion.	.	Utility company stand over procedures and Contractors safe work methodology.	3	5	E	Obtain as-builts, pot hole where necessary. Road design to minimise excavation close to underground services where possible. Contractor to develop work methodology and safe work procedures to minimise chance of accidental utility strike.	2	5	H	Detailed Designer / Construction Contractor		Open			
1.03	*Load / Force / Energy*	Injury to members of the public from construction plant / operations.	Yes - inattentive / irresponsible plant operators and members of public	N/A	3	4	H	Road widening will provide increased working room and offsets for traffic management / site operations. Crash barriers to be incorporated into design to protect errant vehicle from falling off headwalls and from striking existing pylon structures. Contractor to manage site operations with appropriate barriers/fencing to keep members of the public out of active construction site, and to protect construction workers from errant vehicles during construction.	1	3	M	Detailed Designer / Construction Contractor		Open			
1.04	*Position / Location*	Construction of new retaining walls/bridge structure, particularly in soft soils (e.g. peat) leading to potential instability / settlement of structure and adjacent structures/properties. Potential injuries if embankments/bridge elements were to collapse.	No	Design standards, site investigations to inform ground conditions	3	4	H	Detailed designer to design retaining walls and structures in accordance with relevant design standards, based on known ground conditions and loading conditions. Geotechnical investigations to consider depth of foundations with underlying soft soil layers and impact on groundwater. Extent of batter slopes and location of structure to be optimised to minimise potential impacts to adjacent structures. Existing storm water outfalls and flow paths to be considered during design to minimise chance of scour and associated long term embankment stability issues.	2	4	H	Detailed Designer		Open			
1.05	*Hazardous Materials*	Contaminated land - potential Asbestos risk, and other potential contaminants. Illness / death as a result.	No	N/A	4	5	E	Site investigations to be undertaken to determine extent of contamination and concentrations of contaminants. Contamination management plans to be prepared with methodologies to remove dangerous contaminants. Contractors methodology to consider contamination risks, and appropriate procedures and PPE for works to be in place.	2	5	H	Detailed Designer / Construction Contractor / Client		Open			
1.06	*Heights / Depths*	Construction workers falling from height during bridge / retaining wall construction works, leading to potential injury / death.	Yes - inattentive construction workers	N/A	3	5	E	Detailed designer to minimise height of retaining structures where possible. Pre-casting of retaining panels to be considered to minimise exposure of workers at height. Contractor to implement appropriate safe works methods including providing barriers, fencing, fall arrest systems and staging as required to keep construction workers safe at all times.	1	3	M	Detailed Designer / Construction Contractor		Open			
1.07	*External safety interfaces*	Working in close proximity to the existing rail tracks - injury to construction workers/equipment as a result of working adjacent to the rail tracks	Yes - inattentive construction workers	N/A	3	4	H	Temporary crash barriers to be incorporated during construction phase to protect workers from trains passing by and from striking existing pylon structures. Contractor to manage site operations with appropriate barriers/fencing to keep members of the public out of active construction site, and to ensure that adequate space is available to conduct works around rail tracks. Works over rail corridor to be coordinated with KiwiRail and AT Metro rail operations with expectation that works occur during block of line.	1	3	M	Detailed Designer / Construction Contractor		Open			
1.08	*External safety interfaces*	Road users attempting to cross rail corridor at grade/ignoring construction and rail traffic management - potential for death	Yes - inattentive / irresponsible members of public	Existing level crossing gates, warnings etc	3	5	E	Temporary traffic management to be put in place if access across rail is maintained during construction. Additional safety management measures required to consider traffic along rail corridor, as well as vehicles and active mode users. Traffic management to further consider safety impacts of leaving at grade crossing open outside hours of construction with live or passive traffic management.	2	5	H	Detailed Designer / Construction Contractor					
2 Operation & Maintenance Phase																	
2.01	*Egress / Access*	Berms and planted areas require regular maintenance works - increasing risk of maintenance related injuries.	Yes - maintenance workers taking risks	N/A	2	3	M	Landscape designer to consider maintenance needs when selecting planting and other treatments.	2	2	L	Detailed Designer		Open			
2.02	*Movement Direction*	Road users loss of control incidents resulting in vehicle leaving the road and either falling off edge of bridge structure - potential for injury / death.	Yes - drunk / speeding / inattentive drivers	Road rules	3	5	E	Detailed design to incorporate safety barriers as required to prevent vehicles from leaving the road. Consequence of incident reduced.	2	3	M	Detailed Designer		Open			
2.03	*External safety interfaces*	Pavement deterioration leading to premature maintenance works - potential for disruption to local traffic network and exposure of maintenance workers to incidents - potential injury. Also potential for differential settlement at edge of bridged structure leading to bump in road and hence additional maintenance needs.	Yes - inattentive drivers hitting maintenance worker	N/A	2	4	H	Pavement design to consider in situ subgrade conditions and traffic loadings. Robust pavement design to be provided to achieve design life. Settlement slab to be provided on approach and departures from bridge to reduce risk of differential settlement in the pavement.	1	4	M	Detailed Designer		Open			
2.04	*Egress / Access*	Road users attempting to cross rail corridor at grade - potential for death	Yes - inattentive / irresponsible members of public	Existing level crossing gates, warnings etc	3	5	E	Level crossing closure design to encorporate safety features for rail corridor, which may include rail fencing and other controls to discourage loitering at grade and near the rail corridor	2	5	H	Detailed Designer					
2.05	*Heights / Depths*	Objects thrown onto rail corridor, pedestrian electrification, suicide - potential for death	Yes - inattentive / irresponsible members of public	N/A	2	4	H	Detailed designer to consider integrated design of screening to meet requirements for active mode users, vehicles, electrification and debris. Design to meet all relevant requirements included those set out in Waka Kotahi bridge manual, AT guidelines, Kiwirail specs and requirements. Opportunity for design coordination with possible noise walls.	1	4	M	Detailed Designer					
2.06	*Position / Location*	Intersections located below steep grades - potential for injury	Yes - inattentive / irresponsible members of public	N/A	3	3	H	Detailed designer to give consideration of grades and vertical levels. Design of appropriate speed controls for vehicles travelling down steep grades. Intersections to be designed in accordance with relevant geometric design standards and in accordance with safe system principles.	3	2	M	Detailed Designer					
3 Demolition Phase																	
3.01		Demolition of existing dwellings, sheds, minor structures, and live services leading to injury or death of construction worker.	Yes - inattentive / irresponsible plant operators and members of public		2	3	M	Contractor safe work methodology. Use experienced demolition contractors.	2	3	M			Open			

Key:

C= Consequence 1) Low 2) Moderate 3) Significant 4) Major 5) Critical

L= Likelihood 1) Rare 2) Unlikely 3) Possible 4) Likely 5) Almost Certain

LR = Level L) Low M) Moderate H) High E) Extreme

Notes: Hazards / risks considered are those that are project / site specific, non-standard / bespoke designs, special processes, high hazard risks (e.g. non 'business as usual' hazards) that have been identified at the time of the review(s). Other risks will continue to appear during the design life of the project and should be assessed and managed by appropriate parties.

Appendix D – Road Safety Audit Exemption

Road Safety Audit Exemption Form

NZ TRANSPORT AGENCY
WAKA KOTAHI

File reference	SGA-900-DBC-WPL-Road Safety Exemption Form
Project name	Supporting Growth Alliance (SGA)
Project stage	Detailed Business Case for Route Protection
RCA	Auckland Transport/ Waka Kotahi (NZ Transport Agency)

Brief project description and location:

The Supporting Growth Programme is a collaboration between Auckland Transport and Waka Kotahi NZ Transport Agency to plan transport investment in Auckland's future urban zoned areas over the next 10 to 30 years. The programme includes numerous transport corridors proposed within the Auckland Region over a 30+ year timeframe

The scope of the SGA programme where Safety Audit Exemption is sought includes all transport corridors where construction funding is **not** being sought (i.e. a route protection designation only).

Exemption rationale:

The Supporting Growth Business Cases are being developed to enable a designation footprint to be identified for future projects, and the design effort has been limited to that which will inform the designation footprint and Assessment of Environmental Effects for designation (i.e. the deliverable is the designation boundary rather than the design itself). The footprint will include sufficient land requirement to allow for construction and this will provide flexibility for design development to be made in future. It is expected that the future design will achieve a safe system outcome which will align with AT's Vision Zero for Tamaki Makaurau, Unitary Plan and Road and Street Framework.

As pre-implementation and construction funding is not being sought from this business case, several typical design tasks (intersection tracking, drainage design, geotechnical investigation and topographical survey) are not being carried out at this stage. The primary objective of a road safety audit is to help ensure a project achieves an outcome consistent with Safer Journeys and the Safe System approach – that is, minimisation of death and serious injury. It is considered that there is insufficient development of the design to undertake a safety audit at this point in time. An 'Implementation Business Case' will subsequently be required at some time in the future when construction is imminent to identify and confirm funding. The design for this business case will incorporate the latest design principles and standards that are relevant at the time, and there is a high likelihood that these will differ from today's requirements. Therefore, a Concept (Stage 1) Safety Audit is not proposed for the current route protection process and will be deferred until the project is ready to progress to implementation. A Concept Safety Audit will be required at that time regardless of whether one is carried out now.

To adequately incorporate safety into our route protection business case, consultation with various AT's department to ensure adequate footprint is being secured. We will be applying the Safe System Assessment Framework to our programme and will also carry out a Safety in Design review during the pre-implementation design stage .

Declaration:

Having checked the above project with reference to the relevant procedures as laid down in Road Safety Audit Procedures for Projects - Guidelines, 2013, I consider that an independent road safety audit is not required for this stage subject to the following:

1. A Safety in Design Register is included in the Design Report
2. Safe System Principles to be applied to all design development and are documented in the design Report
3. A Concept (Stage 1) Safety Audit is undertaken for the subsequent Detailed Business Case required for implementation funding

Recommended by (Auckland Transport Owner Interface Manager):		**Endorsed by (Auckland Transport Safety Engineer):**	
Name	Alastair Lovell	Name	Irene Tse
Position	SGA Auckland Transport Owner Interface Manager	Position	Technical Lead Road Safety Engineering
Signature		Signature	
Date	28 August 2020	Date	28 August 2020
Recommended by (Waka Kotahi - NZ Transport Agency Owner Interface Manager):		**Endorsed by (Waka Kotahi -NZ Transport Agency Safety Engineer):**	
Name	Deepak Rama	Name	Shashi Lakshminarasimhaiah
Position	SGA Waka Kotahi Owner Interface Manager	Position	Senior Safety Engineer
Signature		Signature	
Date	28 August 2020	Date	17 August 2020

ATTACHMENT FIVE

AUCKLAND COUNCIL SPECIALIST REVIEWS

NoR 1: Takaanini Level Crossing (TLC): Spartan Road, Manuia Road, Manuroa Road and Taka Street

NoR 2: Takaanini Level Crossing (TLC): Walters Road level crossing closure and new multi-modal bridge

ATTACHMENT 5: AUCKLAND COUNCIL SPECIALIST REVIEWS

"Arboricultural Assessment of 2 NORs for the Takaanini Level Crossings Project "Leon Saxon, Arborlab Limited, 29 February 2024	Arboricultural Effects
"Technical Memorandum Notices of Requirement for works NoR1 to NoR2: Archaeology", Myfanwy Eaves, Auckland Council, 20 February 2024	Archaeological Effects
"Technical Expert Evidence – for s.42A report, Takanini crossings NoR" David Russell, Auckland Council, 6 March 2024	Development Engineering Effects
"Takaanini Level Crossings NoR Technical Expert s.42A report – Terrestrial Ecology", Simon Chapman, Ecology NZ, 4 March 2024	Terrestrial Ecology Effects
"Supporting Growth Alliance – Submissions on Takaanini Level Crossings (TLC) Project NoRs 1 and 2, Geotechnical Engineering Assessment", Patrick Shorten, Fraser Thomas Limited, 4 March 2024	Geotechnical Effects
"Technical Memorandum for Notices of Requirement (NoRs) Takaanini Level Crossings Project", Rob Pryor, LA4 Limited, 6 March 2024	Landscape and Visual Effects
"Supporting Growth Alliance – Takaanini Level Crossings NoRs 1 and 2, Acoustics Assessment", Peter Runcie, SLR Consulting, 5 March 2024	Acoustic Noise and Vibration Effects
"S42A Report on the Takanini Level Crossing Notices of Requirement – Parks Planning", Andrew Miller, CoLab Planning), 7 March 2024	Parks Planning Effects

“Technical specialist report to contribute towards Council’s section 42A hearing report – Takaanini Level Crossings NoR 1 and NoR 2 Social Impact Assessment”, Rebecca Foy, Formative Limited, 5 March 2024	Social Impact Effects
“Auckland Council memorandum (technical specialist report to contribute towards Council’s section 42A hearing report – Takanini Level Crossings Notices of Requirement – Stormwater and Flood Hazard Technical Assessment”, Trent Sunich, SLR Consulting, 23 February 2024	Stormwater and Flood Hazard Effects
“Technical Specialist Memo Takanini Level Crossings Notice of Requirement 1 and Notice of Requirement 2 Traffic and Transportation Assessment”, Martin Peake, Progressive Transport Solutions Limited, 28 February 2024	Transport Effects
“Proposed Notice of Requirement (NoR 1) and NoR 2 Takaanini Rail Crossings”, Jason Evans, ET Urban Design Ltd, 7 March 2024	Urban Design Effects

Arborlab
Creating Green Space
Sustainability

Arboricultural Memorandum

Prepared for: **Joy La Nauze**
Auckland Council – Plans and Places
Joy.LaNauze@aucklandcouncil.govt.nz

Prepared by: **Leon Saxon**
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Head Office
76D Paul Matthews Road,
Albany Auckland 0632

Date: **29 February 2024**

Re: **Arboricultural Assessment of 2 NOR's for the Takaanini Level Crossings Project**

Job Ref. 37986

1. Introduction

1.1 Auckland Transport have lodged two Notices of Requirement, collectively referred to as the Takaanini Level Crossings Project (TLC / the Project). The Notices of Requirement (NOR's) are to designate land for the purposes of the removal and/or replacement of four existing road over rail crossings at Spartan Road, Manuia Road, Manuroa Road, Taka Street in NOR 1 and one crossing in NOR2 at Walters Road, Takaanini. A full description of the proposal is provided in the information package submitted.

1.2 This memorandum is provided as specialist arboricultural advice for the planners preparing the s42a report for the two NOR's.

1.3 In preparing this memorandum, the following documents have been reviewed:

- Takaanini Level Crossings - Assessment of Arboricultural Effects, prepared by Matthew Paul, dated October 2023
- Takaanini Level Crossings *Assessment of Effects on the Environment* (Version 1.0) prepared by Liam Winter, Adriene Grafia, James Gibson, Daly Williams and George van Pelt and dated 13/10/2023.

1.4 Whilst reviewing those documents I also reviewed each of the relevant general arrangement plans for each of the NOR's.

1.5 I also attended the project briefing at the Te Tupu Nga Tahi offices on the 5th of April 2023 and the project-wide site visit on the 19th of April 2023.

2. Qualifications and Experience

2.1 My full name is Leon Saxon.

2.2 I am a senior consultant arborist employed by Arborlab Ltd, 76D Paul Matthews Road, Albany, Auckland 0632.

2.3 Arborlab is one of New Zealand's leading green space asset management specialists. One of its services to provide arboriculture advice relating to all aspects of tree management from practical arboriculture and legal government processes to complex risk analysis and assessment and providing expert witness services.

2.4 I have been employed by Arborlab since March 2016. Part of my responsibilities is to assess, provide specialist input and prepare arboricultural reports to support resource consent applications for large infrastructure projects.

2.5 I hold a Diploma in Arboriculture from Wintec, the Waikato Institute of Technology. I am also a registered user of the Quantified Tree Risk Assessment System and a qualified International Society of Arboriculture Tree Risk Assessor.

2.6 I have over 25 years' experience in arboriculture in the arborist field including approximately 10 years as a practical arborist undertaking pruning/felling/planting. I spent six years working for Auckland Council as an arborist in the Resource Consents and Compliance Department (North) and have spent the past 10 years specialising in consultancy.

2.7 Since 2016, I have provided specialist input to resource consent applications on a consultancy basis to the Auckland Council Consents and Compliance Department as an employee of Arborlab.

2.8 I also have experience in providing expert evidence in relation to major roading projects (Auckland's Eastern Busway) and cycle paths/shared paths (Glen Innes to Tamaki Drive Shared Path and Te Whau Shared Path).

2.9 I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 and have complied with it in preparing this evidence and agree to comply with it when giving my oral evidence to the Hearing. Other than where I state that I am relying on the advice of another person, this evidence is within my area of expertise.

3. Subject Matter

3.1 This memorandum relates to the arboricultural aspects of the TLC Notices of Requirement by Auckland Transport, which consists of two NORs as follows:

NOR1 – Spartan Road, Manuia Road, Mauroa Road and Taka Street.

NOR2 – Walters Road

4. Summary of Key Arboricultural Issues

4.1 The land that the proposed designations cover predominantly involves existing roads and adjoining residential and business zoned properties. Within the residential zoned properties, there is generally no District Plan rules providing for protection of trees / vegetation, other than where trees are listed in Schedule 10 of the AUP(OP) as Notable trees. Some areas of open space zoned reserve land are also affected. One scheduled notable tree located within the Manuroa Road project area (NOR 1) (which is in fact a pair of trees) is affected, likely to require removal.

4.2 A summary of the protected trees for each of the designation areas is provided in the Executive Summary of the submitted Arboricultural Assessment (page 5). A copy of that table is provided below for reference.

NoR reference	Project areas	Total number of trees (within road reserve, open space zones or Notable Trees overlay)	Total number of trees for removal* (within road reserve, open space zones or Notable Trees overlay)	Works within the protected root zone of retained vegetation
NoR 1	Spartan Road	1	0	0
	Manuia Road	4	2	0
	Manuroa Road	2	2	0
	Taka Street	13	13	0
NoR 2	Walters Road	26	25	1
	Total	**46**	**42**	**1**

** Note: excluding pest plant species within the road reserve or those trees that are less than 4 m in height or 400 mm in girth within the road reserve or an open space zone (as removal of these trees are a permitted activity under the AUP:OP)*

4.3 The most significant confirmed adverse effects relate to the removal of existing street trees located within the road reserve, trees located within open space reserve land and removal of the notable oak tree. The removal of these trees is proposed to be mitigated through replacement planting. The details of the replacement planting are proposed to be confirmed at the detailed design stage, through the compilation of a Tree Management Plan and Urban Landscape Design Management Plan.

4.4 It may be found during detailed design, that some trees which are currently identified for removal are able to be retained. Where this is the case, it will be identified in the TMP and measures to ensure that the trees retention is viable will be confirmed.

4.5 Potential for adverse effects exist in the form of damage to retained trees, including notable trees during construction. These adverse effects are proposed to be mitigated/minimised through the compilation of a Tree Management Plan at the detailed design stage.

5. Relevant Auckland Unitary Plan Rules – Vegetation

5.1 I have reviewed the rules that have been set out in Section 3.3 (Table 8) of the Assessment of Arboricultural Effects. I concur that the rules that have been outlined are relevant to the proposal and are the correct planning mechanism with regards to the Notice of Requirement.

6. Adequacy of Information

6.1 The arboricultural report is considered to have utilised suitable, industry standard methodologies for obtaining the relevant arboricultural data to inform the assessment of effects. The information provided is considered to be sufficient to allow an informed assessment.

7. Comment on the Assessment of Arboricultural Effects

NOR 1

7.1 Within NOR1, trees subject to controls under the AUP(OP) are predominantly concentrated within the Taka Street project area. However, a notable tree (two x oak trees) is located within the Manuroa Road project area (AUP[OP] reference – 2265, Oak, Verified position).

7.2 Overall, the project area generally has a sparsity of street trees. The most significant trees likely to require removal is Group 8, located within Open Space zoned land in the Taka Street project area. This includes three large trees: a Tulip tree, an Ash tree and a Poplar tree. This is acknowledged in the submitted arboricultural report at section 4.3.4. I am only in partial agreement with the statement (at section 4.3.4) that "these are large exotic specimens which have a more limited lifespan or function when considered against the pressures of urban land use, functional infrastructure and the need to enhance and improve the function of green space areas". It is unclear to me what the "more limited than" is in comparison to. More limited than what? The poplar tree could perhaps be considered as less desirable for long term retention than the other two trees due to a number of possible structural deficiencies and its proximity to adjacent residential land. The other

two trees however are considered entirely suitable for their growing environment.

7.3 Notwithstanding the above, it is acknowledged that the trees would require removal to achieve the proposed works. The park within which the trees grow has sufficient space for planting to mitigate adverse impacts over time.

NOR 2

7.4 Two rows of street trees require removal, one of Himalayan birch (Group 15) and one of Liquidambar (Group 16). The trees are located in road reserve along the northern side of Walters Road, Group 15 adjacent to 30 Walters Road and Group 16 adjacent to 40R Walters Road, 168 Porchester Road and 15 Phar Lap Crescent. While adverse effects are anticipated from any tree removal, none of these trees are exceptional, and adverse effects can be mitigated through replacement planting.

8. S92 Requests

8.1 I note that I am satisfied with the responses to my requests for further information. Most importantly that the additional oak tree (added as Tree 17) has been identified now, in order that potential adverse effects to it are not missed during detailed designs.

9. Submissions

9.1 I have reviewed the submissions and did not note any that raised any significant issues regarding trees currently protected by DP rules.

9.2 Sub NOR2 – 13 Jayanta Bhaduri and Sudarshana Bhaduri.

9.2.1 It is acknowledged that concerns are raised by the submission around the removal of trees and vegetation.

9.2.2 The trees likely to require removal within the vicinity of the submitters property at 3 Arion Road, Takanini are set back from the submitters dwelling, and there are two rows of established pōhutukawa trees between their dwelling and the trees to be removed. The retained trees are located outside the designation boundaries within reserve land at 40R Walters Road. Whilst it is accepted that there will be a reduction in established trees at the time of construction, there will likely be an increase in street tree planting within the project area upon completion. Adverse effects resulting from the tree removal are considered to cause a direct adverse effect to the submitter.

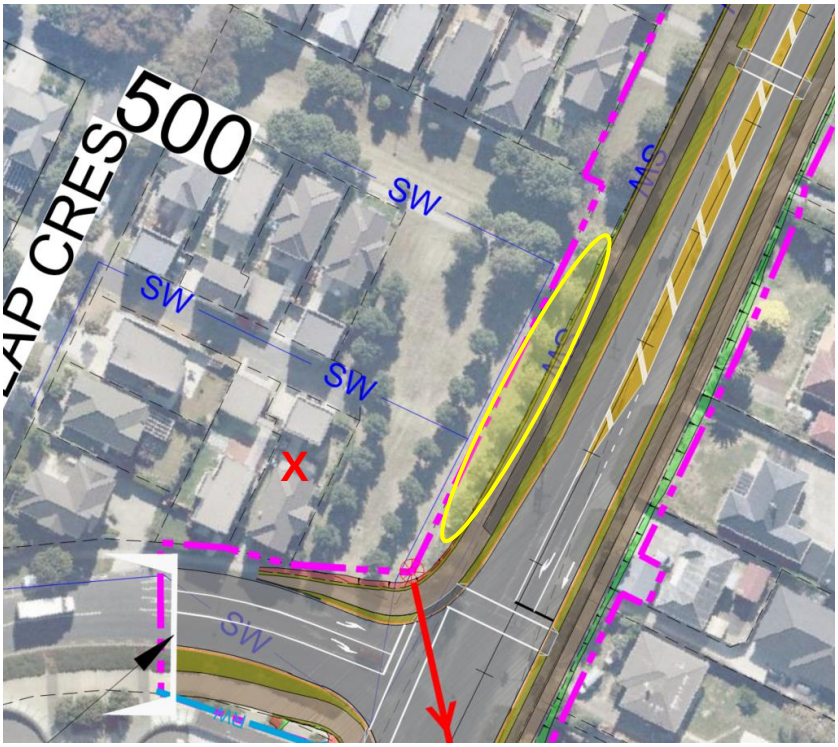


Figure 1: Trees likely requiring removal circled in yellow, X marks submitters property. Pink dashed line indicates designation boundary.

Local Boards

9.3 The local boards have not raised any issues regarding trees for these NOR's.

10. Proposed Conditions of NOR

10.1 To identify existing trees protected under the District Plan, and suitably manage potential adverse effects to those trees, a condition requiring preparation of a Tree Protection Management Plan (TMP) has been recommended by the Requiring Authority as part of a suite of conditions for each of the NORs.

10.2 A condition is also proposed for the preparation of an Urban and Landscape Design Management Plan for each of the designations. The wording of the condition is considered suitable for ensuring that mitigation planting is carried out to a good standard.

10.3 I support both of these conditions as the appropriate tool to manage the actual and potential adverse effects of the NORs.

11. Conclusions and Recommendations

11.1 Overall, there are no arboricultural reasons to oppose the NOR's.

11.2 The conditions for the ULDMP and TMP are considered suitable measures to manage potential adverse arboricultural effects.

Technical memorandum

Notices of Requirement for works NoR1 to NoR2: Archaeology

1. Introduction

1.1 My name is Myfanwy May Eaves, and I am the Senior Specialist: Archaeology at Auckland Council (the Council).

1.2 I have a Bachelor of Arts (BA) and Master of Arts (MA) (Hons) from Auckland University in Anthropology and Chinese. I also have a Master of Social Sciences (MSocSci) in Industrial Archaeology from the University of Birmingham, United Kingdom.

1.3 I have been in this role for ten (10) years. I provide information and advice on request and provide direction and assistance to the Council's compliance and monitoring officers for consented works. I work with NZ Police and Heritage NZ when potential archaeological discoveries are made on sites with no previously recorded historic heritage site (exposure can be from natural events or consented activity). I provide technical reviews for resource consent applications and Notices of Requirement across the Auckland region. I also provide advice and subject matter assessments to Council officers on matters relating to the care and protection of historic heritage across the Auckland region.

1.4 Previously, I have studied and worked in New Zealand and overseas in several locations: Australia, mainland China, England and Wales. I have worked as a museum collections manager in Auckland (Auckland Museum) and Australia (Sydney, PHM/MAAS). I am skilled in the identification, recording and provision of conservation advice for excavated materials and sites, with a speciality in industrial sites and materials. I have also organised logistics for the movement of objects and exhibitions around Australia and internationally. I have a high level of understanding of and professional experience in the physical and documentary protection and enhancement of both sites and objects particularly in conjunction with indigenous communities.

1.5 For this application, my role was to undertake an assessment of the lodged documents, identify any information gaps, prepare evidence and provide advice to the processing planners as needed on my subject matter field, historic heritage.

1.6 I attended the project site visit with other subject matter experts on 19 April 2023.

1.7 I was unable to attend the SGA briefing on 13 December 2023, however a copy of the *Conditions Workshop* file was provided to me; I have reviewed this.

1.8 This memo is my expert technical evidence on the Takaanini Level Crossings and submissions relevant to my area of expertise, historic heritage, and archaeology.

Code of Conduct

1.9 I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 and have complied with it in preparing this evidence and agree to comply with it when giving any oral evidence to the Hearing. Other than where I state that I am relying on the advice of another person, this evidence is within my area(s) of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

1.10 I have qualified my evidence where I consider that any part of it may be incomplete or inaccurate, and identified any information or knowledge gaps, or uncertainties in any scientific information or mathematical models and analyses that I am aware of, and their potential implications. I have stated in my evidence where my opinion is not firm or concluded because of insufficient research or data or for any other reason and have provided an assessment of my level of confidence, and the likelihood of any outcomes specified, in my conclusion.

2. Scope and Structure

2.1 The Requiring Authority has provided an assessment by a Subject Matter Expert in the application package. This provides an analysis of risk to the known historic heritage resource either within or adjacent to the location.[1] Comment is provided for each area of works, including the potential for construction and operation effects of this proposal on the historic heritage resource.

2.2 The methodology used for this assessment is stated and follows normal professional practice. After data analysis from acknowledged professional sources (e.g. soils, vegetation, archives) field surveys were undertaken. These tested the data accuracy through site relocation (or not) and provided a landscape analysis of the historic heritage resource visible today. Surveys were limited to public land and those safest to traverse - it is noted that neither test pitting nor probing (invasive testing) could be used due to majority of the project area being under impervious surfacing (concrete or asphalt). These constraints are acknowledged and not uncommon.

2.3 This methodology is standard professional practice to ascertain if an area, place, building or archaeological site might be affected in any way by any part of the proposal.

2.4 **Subject Matter**

This memo relates to the Takaanini Level Crossings Project Notices of Requirement by Auckland Transport which are described in full in the *Assessment of Effects on the Environmen.t*[2] These can be summarised as the removal and/or replacement of existing road over rail level crossings at five project areas:

- NOR1 – Spartan Road, Manuia Road, Manuroa Road and Taka Street
- NOR2 – Walters Road.

2.5 I have reviewed the relevant reports contained within the application, as well as any related submissions, for any effects on historic heritage as stated in the interpretation and application section (Part 1 section 2) of the RMA 1991:

***historic heritage*—**

(a) means those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, deriving from any of the following qualities:

(i) archaeological:
(ii) architectural:
(iii) cultural:

[1] *Assessment of Archaeological and Heritage Effects* October 2023 version 1. Prepared by Hayley Glover for Te Tupu Ngātahi Supporting Growth, Waka Kotahi (NZTA) and Auckland Transport (AT).
[2] *Assessment of Effects on the Environment* [AEE] November 2023 version 2. Prepared by L Winter, A Grafia, J Gibson D Williams, and G van Pelt of Te Tupu Ngātahi. The is the updated version post-s92 requests.

(iv) historic:
(v) scientific:
(vi) technological; and

(b) includes—
(i) historic sites, structures, places, and areas; and
(ii) archaeological sites; and
(iii) sites of significance to Māori, including wāhi tapu; and
(iv) surroundings associated with the natural and physical resources.

2.6 This memo assesses historic heritage and archaeological sites in the proposed extent of works area only. The report does not discuss or comment on cultural matters as these are matters for mana whenua only to comment on.

3. Summary of key issues

3.1 I consider the assessment and statements made by Glover are accurate for these NOR; there are no archaeological issues in this project.

3.2 The project does not affect any scheduled or listed built heritage places of historic heritage significance.[3]

3.3 I consider the methodology used is a competent examination of the project areas and that the project areas either highly modified (roads, rails, housing, commercial premises) or covered with impervious surfaces. Field work was limited to public land and no evidence of archaeology was visible at any exposed ground surfaces.[4]

3.4 She considers the land has been extensively developed and modified with roads, the NIMT railway, housing, and commercial and industrial buildings and that those areas subject to field survey were obscured by a cover of impervious surfaces (ibid).

3.5 Glover states she considers there is no reasonable cause to suspect remnant archaeological features to be impacted by the anticipated works, therefore no measures to avoid or mitigate any effects are needed.[5]

3.6 The overall effects of the construction and operation of the NORs on the historic heritage (archaeology) resource are considered minimal if suitable attention is drawn to existing AUP OIP Objectives, Policies and Rules in order to avoid or mitigate any effects, should the situation arise.

3.7 On this basis I did not make a s92 request for further information as there is no identified pre-1900 risk. I am still of this opinion.

There may be some residential examples (domestic houses) that could be considered for some level of historic heritage analysis; however, this is a matter for Built Heritage assessment and not included with this memo.

4. Submissions

4.1 I have reviewed both the various Local Board comments and the submissions for both NOR. I note there no historic heritage matters were raised.

[3] AEE 2023:116-7.
[4] Glover 2023: 21-24.
[5] Glover2023:25.

4.2 On this basis, no matters are identified requiring further comment at this time.

5. SGA Proposed Conditions

5.1 SGA circulated a Standard Condition set with the lodgement parcel.[6]

5.2 The subsequent Condition Set for these NOR *does not include any condition* for Historic Heritage, either in the form of a management plan or some other tool.

5.3 I concur with this approach; there is no known risk therefore there is no requirement to manage the risk to the historic heritage resource as there will be no effects.

5.4 Glover recommends that the existing statutory provisions in Chapters E26 Infrastructure and E11/12 Land Disturbance are sufficient to address any accidental discovery made in the execution of any works.[7]

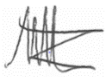
6. Recommendations

6.1 I have assessed the effects of the proposal on the historic heritage resource, the magnitude of these effects, and whether adverse effects are avoided / remedied / mitigated / minimised / offset. Overall, I consider the effects on historic heritage to be minor or less than minor.

6.2 There is no National Policy Statement on Historic Heritage to assess this application against.

6.3 In summary, I support the application provided adequate mitigation is offered and occurs for any adverse effects on the historic heritage resource *should they be encountered during the execution of works* and as stated in E26.6.1 Objectives and E26.6.5.1 Policies.

Signed: **Dated:**



20 February 2024

[6] For reference (only) this is like the condition set included with the separate NOR package for South Frequent Transport Network [FTN] NOR1-4.
[7] Glover 2023:16-17.

MEMO

To	Joy LaNauze
From	David Russell
Date	6.02.2024
Subject	Technical Expert Evidence – for s.42A Report, Takanini crossings NoR.

TECHNICAL EXPERT S.42A REPORT / MEMO TEMPLATE

1. Introduction

1.1. My name is David John Russell. I am a Senior Development Engineer employed by Auckland Council since 2005. I have been involved with land development in a senior role since I joined Council Originally in 1988.I have a BE(Civil) degree, graduating in 1976.

1.2. My role in the assessment of the Takanini Crossings Notices of Requirement is to comment on the utility company submissions, and other submissions that raise matters regarding land use and development rules of the Auckland Unitary Plan: Operative in Part ('AUP:OP'). The latter work is based on my experience within Council and looking at the impacts the projects have on the neighbouring land owners.

I attended the original soft lodgement meeting and walk over briefing and bus tour of the Takanini Crossings, held by the Te Tupu Ngātahi Supporting Growth (Te Tupu Ngātahi) consultants. I have also driven the various routes and walked parts to access the various submissions.

1.3. Code of Conduct

I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 and have complied with it in preparing this evidence and agree to comply with it when giving any oral evidence to the Hearing. Other than where I state that I am relying on the advice of another person, this evidence is within my area(s) of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.
I have qualified my evidence where I consider that any part of it may be incomplete or inaccurate, and identified any information or knowledge gaps, or uncertainties in any scientific information or mathematical models and analyses that I am aware of, and their potential implications. I have stated in my evidence where my opinion is not firm or concluded because of insufficient research or data or for any other reason and have provided an assessment of my level of confidence, and the likelihood of any outcomes specified, in my conclusion.

2. Scope and Structure

2.1. Subject Matter

This technical memo relates to the South rail crossings Notices of Requirement by Auckland Transport, which consists of:

- Level crossing separation Spartan Rd – Taka St (NOR 1)
- Level crossing separation Walters Rs (NOR 2)

2.2. I have read the following documents submitted with the NoR as they relate to my expertise;-

- NoR 1 Form 18 - Takaanini Level Crossings
- NoR 2 Form 18 - Takaanini Level Crossings
- TLC - AEE - 1 - Updated for s92 – 101123
- TLC - AEE - 2 - App A - Alternatives - Final - 131023
- Takaanini Level Crossings - FINAL PROPOSED CONDITIONS [For Lodgement] - 23-10-05
- TLC - Assessment of Flooding Effects - Final – 131023
- TLC - Assessment of Transport Effects - Final – 131023

In this technical memo I address the submissions made by Telecommunications Submitters, Watercare, and Ministry of Education including their concerns regarding a lack of involvement in the projects until after the design stage. I also address the Ministry of Education and Kāinga Ora - Homes and Communities ("Kāinga Ora") submissions. I have read all of the submissions made to the Level crossings NoR and make comment on issues raised in those submissions that are within my area of expertise, including nuisance, dust, vehicle entrances.

3. Summary of key issues in submissions

3.1. Level crossings Spartan Rd – Taka St (NoR 1)

3.1.1 Property access during and after construction

Submission 4. Takanini Business association. They indicate that numerous industrial and commercial businesses will be affected.

Submission 7. Portsmouth Family Trust believe that the parking and manoeuvring will be significantly impacted by the by the proposed works.

Submission 11. Oceania Healthcare indicate that the proposed road changes will significantly impact the operation of the site, available off-site parking and vehicle manoeuvring within the site.

Submission 16. By Design Concrete and Paving indicate that the proposed road changes are going to adversely affect access to and from the site. This is because of the size of the trucks accessing the site.

Submission 18. Dealership Properties Ltd have concerns regarding access to the site (160 – 162 Great South Rd) as a consequence o of the Taka St works and possible impact on a consent application being lodged.

Submission 29. Halls Transport indicate issues with Truck access to their site. Other access issues will be addressed by the traffic review looking at connection between their 2 sites on either side of the railway.

Submission 36. Ministry of Education indicates the need for pedestrian and cycle connection will be necessary during construction as a number of families access the schools this way. As the area will be restricted to ensure that the drives are safe

Submission 37. Takanini Village Ltd and Tonea Properties Ltd indicates concern regarding property access (paragraph 10 a)

The submitters have raised issues associated with pedestrian and cyclist access through the construction sites, access to vehicle crossings for the large vehicles used, and loss of on street parking. As it affects their operations. Others are considering the wider impact on the network. In terms of the information provided there is little about how pedestrians and cyclists have been addressed through the construction phase. There are significant groups in the population that rely on this for their mode of transport that appears not to have been considered in the application.

Some of the larger vehicle users (such as Halls Transport are also concerned about how the truck and trailer units will be able to negotiate their vehicle crossings considering the extra space needed to turn into sites.

3.1.2 Utility Companies plus some looking for input pre-design.

Submission 8. Telecommunications submitters request the ability to be part of the pre-design process to ensure that the correct new infrastructure is placed, and coordination “assistance” to ensure that new infrastructure is best placed between now and construction commencing.

Submission 23. BP Oil. (This site is impacted under this NoR and FTN NoR) As an operating service station there are many issues in decommissioning and r- establishing a service station. They have requested being “in the loop” from now to the start of construction to ensure that all appropriate steps can be taken to retain the usage or best change the usage of the site.,

Submission 36. Ministry of Education indicates the need for pedestrian and cycle connection will be necessary during construction as a number of families access the schools this way. They wish to be in the loop as soon as possible to ensure safety.

Submission 41 Watercare (WSL). They wish to be able to maintain access to the infrastructure at all times and be involved in the design from now to ensure future WSL assets do not need to be moved. They have proposed some condition changes that will be detailed later in this document. (Refer section 6)

Submission 42, Z Energy. (This site is impacted under this NoR and FTN NoR) As an operating service station there are many issues in decommissioning and re-establishing a service station. They have requested being "in the loop" from now to the start of construction to ensure that all appropriate steps can be taken to retain the usage or best change the usage of the site.,

Submission 43 Kainga Ora are looking for improvements to the connectivity between the Taka Street works and the Takanini Railway station and also between the Manuroa Rd works and the Takanini Railway station. This is probably outside the scope of this NoR and has been addressed by the Traffic Expert. The works being carried out under this NoR need to be suitable to extend when the works are carried out by others at some future time.

3.2. NOR 2 Walters Rd Crossing

3.2.1 Property access during and after construction

Submission 3. Takanini Business association. They indicate that numerous industrial and commercial businesses will be affected.

Submission 5. Carter Building Supplies. Removal of parking and the front area, plus constrained entering the property in trucks will make the property un usable for its present use.

Submission 10 Alda Investments Ltd. Access issues to a multi-level development that has a resource consent. The development needs security of access. There also needs to be a safe pedestrian access through the construction and after the work is completed

Submission 11 D E Nakhle investments. Same as for 10 above.

Submission 18. Sunlight Holdings and South Auckland Marine Ltd. Loss of property to the access lane compromises the functionality of the site, increases the difficulty of accessing the site. Th effects on the business during the construction phase is also a concern, and difficulty manoeuvring around the reduced site and onto the site with boat trailers

Submission 19. Mead Trust holdings and Carters building supplies. As with submission 5 but it is not the same submission but it is the same site.

Submission 20. Mitre 10. B Train access to the site. The reduced land area will make manoeuvring "impossible".

Submission 22. Z Energy. Land not directly effected in this NOR. However concerned about access to the Walters Rd sites and pedestrian safety

3.2.2 Utility Companies plus some looking for input pre design.

Submission 7. Telecommunications submitters request the ability to be part of the pre design process to ensure that the correct new infrastructure is placed, and coordination "assistance" to ensure that new infrastructure is best placed between now and construction commencing.

Submission 16. Ministry of Education indicates the need for pedestrian and cycle connection will be necessary during construction as a number of families access the schools this way. As the area will be restricted to ensure that the drives are safe.

Submission 21 Watercare. They wish to be able to maintain access to the infrastructure at all times and be involved in the design from now to ensure future WSL assets do not need to be moved. They have proposed some condition changes that will be detailed later in this document. (Refer section 6)

Submission 23 Kainga Ora are looking for to the connectivity including the possibility of lifts being added to the bridges to assist those less able

Submission 41 Watercare (WSL). They wish to be able to maintain access to the infrastructure at all times and be involved in the design from now to ensure future WSL assets do not need to be moved. They have proposed some condition changes that will be detailed later in this document.

3.3 Summary of submissions.

There are a few general matters from the submitters point of view.

1 Need to maintain access to the properties. This is particularly important for the commercial area as the truck size needs space to turn. Consideration to this will need to be given during the preparation of the construction management plan works so that the neighbouring properties are accessible.

2 Pedestrian and cycle access through the work sites. There are more pedestrians and cyclists using the footpaths now, particularly in areas close to schools. This function needs to be retained during construction works.

3 The network utility operators need to be kept in the loop from now so that works they do will not conflict with the proposed works, and to minimise the rework needed as part of the NoR works.

4. Comment on the Assessment of Effects by Supporting Growth Alliance

I have read the AEE and particularly section 9.2 dealing with the construction methodology. The general approach is to comply with the 5 Management Plans detailed in Section 9.2.1. At present an assessment for each has been provided to be refined for presenting as part of the outline plan of works to be provided as part of condition 7. At that point there will be 6

management plans to review and approve by the various experts.

4.1. I agree with the assessments of effects that were provided as they impact on the project and the construction works required. As indicated above and in the utility company submissions the assessment conditions do not cover the period prior to the start of works very well. Each utility authority has proposed amendments to the NUMP condition 28 - refer WSL submission. The requested change brings the conditions in line with other recently granted NoR decisions. (The North West Strategic Network and Airport to Botany Bus Rapid Transit Project as advised in section 4.8 of the Watercare submission). The proposed change sets up a process whereby all utility operators and the applicant keep up to date with what is happening within the NoR area. This will help minimise any impacts on the Utility Companies activities to upgrade and maintain their infrastructure and the need to relocate the new services as part of the future works

4.2. The AEE and traffic reports are light on details for the maintenance of pedestrian access through the construction sites. Reading condition 28 Construction traffic this is probably covered by point (vi). However, I believe pedestrian access should be reinforced for certainty.

4.3. The support documents address the stormwater treatment requirements. The review of that facet of the projects has been carried out by others. In general I am happy that what is proposed complies with the AUP, although there may be some questions around compliance with the Network Discharge Consent. The latter maters can be addressed as part of the outline plan of works review.

4.4. The AEE provided Addresses the engineering issues covered in the AUP. The plans provided with the outline plan of works will provide the full technical detail that is not in the NoR application. It is not appropriate to have all the technical Details now as construction standards are likely to change with time.

5. Submissions

5.1 In Table 1 below I summarise the development engineering issues raised in submissions and note the number of submissions made to each NoR on that issue.

Issues		*Number of Submissions*
Property access during and after construction *(excluding social effects items)*	*NoR 1*	*8*
	NoR 2	*8*
Construction Effects	*NoR 1*	*6*
	NoR 2	*3*

Table 1 Utility provider Issues raised in Submissions.

5.2 The submitters referred to in Table 2 are each identified in section 3 along with a brief summary of the relevant part of their submission.

5.3 Watercare, and the Telecommunications Submitters have all made similar

submissions. I refer to these submissions collectively as the 'utility providers submissions. The concerns raised in the utility providers submissions are (in summary):

5.4 Existing infrastructure is located within the proposed designation boundaries. It is important that plans for the changes to the roads and construction of the bridges and in particular the "active mode facilities" accommodate existing network assets or provide for their replacement and access for their maintenance and possible upgrade. The infrastructure is critical in meeting the needs of the communities served and to accommodate changes and the future demands associated with urban growth.

All the utility provider submitters have requested further consultation and detailed planning concerning maters which may impact the location and safe operation of their assets. This includes the possibility of the ground levels being altered in the location of existing underground services.

They have requested ongoing involvement in the design phase to ensure that the assets are protected, and provisions made for new infrastructure.

5.5 The proposed conditions in Form 18 of the South rail crossings NoR are void of early consultation requirements. The utility provider submitters see this as an issue in that they are continuously updating their assets and see a real potential for new projects to need to be redone as part of the roading works. Proposed Condition 6 is for a Network Utility Management Plan (NUMP). However, this is only prepared as part of the construction work. There does appear to be logic in having a strategic outcomes plan to minimise the works carried out by the utility companies that need to be redone as part of the construction works. For example, this could stop a water main being laid at 600mm deep in the berm, that ends up under the future road where it needs to be 900mm deep. There are similar issues for the other utility operators. (Refer item 7.1). This should minimise the issues to be identified in the Network Utility Management Plan "NUMP", Stakeholder Communication and Engagement Management Plan "SCEMP" and Land Use Integration Process "LIP" plans. The LIP plan is identified in Watercare's submission at paragraph 4.9. The Requiring Authority's proposed condition 3 Land Use Integration Process, set out in Form 18 of each NoR, is proposed as a process for the period between confirmation of the designation and the start of construction and its stated purpose is to encourage and facilitate the integration of master planning and land use development activity. The proposed LIP condition refers to a nominated contact being a point of contact for "a Developer or Development Agency" wanting to integrate their development plans or master plans with the Requiring Authority. As such, the proposed LIP is not aimed at addressing coordination of works with network utility providers. The use of a Network Utility Strategic Outcomes Plan (NUSOP) plan would largely eliminate the issue. This would mean that utility operators would be consulted as part of the run up to the design phase to guide them on road position so that new infrastructure can be correctly located.

The utility provider submitters have noted that condition 6 [Network Utility

Management Plan (NUMP)] has been changed from that of other NOR's. They have requested that condition 6 be amended to.

"(d) the development of the NUMP shall consider opportunities to coordinate future work programmes with other network utility operator(s) during detailed design where practicable."

This amendment would also meet the Watercare requested amendment in place of the new condition they have proposed.

5.6 The Kainga Ora submission raises in more detail the issue raised by a number of submitters dust, pedestrian access through the construction site, and vehicle access to their property.

Proposed Condition 14 (Existing property access) adequately recognises the need for property access and the requirement to agree with landowners to get the vehicle access requirements correct.

Proposed Condition 15 (Construction Environment Management Plan) needs to be amended to reflect the community need to "survive" the project. Many submitters have effectively said "need access to the property to keep operating". It will be important to remember that these will be long construction period projects, so the standards adopted need to be reasonable. These matters are addressed in more detail by the social impact assessment expert.

5.7 In terms of the construction traffic management plan there are standards to allow neighbouring land owners to access their homes and businesses, and how to manage construction traffic. However, I cannot see anything about maintaining pedestrian access through the site during construction. This is important to allow the neighbourhood to stay connected. Refer 7.3 below.

6. Comment on SGA Proposed Conditions

The conditions proposed are sound in terms of my review area with the detailed changes I have proposed. The first will assist the Utility Companies with their works and the second will help ensure pedestrian and vehicular access to the adjoining properties are maintained throughout the construction phase wherever possible.

6.1 Condition 24(d) Network Utility Management Plan (NUMP) can be amended to read;-

*"(d) t*he development of the NUMP shall consider opportunities to coordinate future work programmes with other network utility operator(s) during detailed design where practicable."

This should ensure a level of consultation during the design phase, and thus minimise possible conflicts in new infrastructure location. This change will bring this condition into line with that in other NoRs recently approved.

6.2 Condition 18 (vi) Construction Traffic Management Plan (CTMP) should be amended to read;-

" (vi) methods to maintain access to property and/or private roads for pedestrians and vehicles where practicable, or to provide alternative access arrangements when it will not be;"

This will assist in ensuring that good pedestrian connectivity is achieved throughout the projects.

6.3 Allowing for the two changes detailed above, and the changes proposed by other experts, the engineering plans and management plans to be provided under condition 7 will provide sound engineering plans that will meet the expectations of the AUP and the various engineering design codes. In providing the plans it should also be possible to ensure that minimal new Utility Company works will need to be redone.

This will ensure that the adverse effects created and perceived to be created are avoided, remedied or mitigated.

7. Recommendations

It is recommended that a new condition be added or one amended, and that another condition be amended as detailed below.

7.1 **Network Utility Strategic Outcomes Plan (NUSOP) (recommended new condition)**

(a) A NUSOP shall be prepared in the project feasibility stage or as early as practicable.

(b) The objective of the NUSOP is to set out a strategic framework for asset resilience that includes consideration of growth, corridor protection, and asset renewals over time.

(c) The NUSOP shall:

(i) consider expected asset life of existing assets;
(ii) consider expected asset capacity increases or changes; and
(iii) demonstrate how city and national strategic plans are considered.

(d) The NUSOP shall be prepared in consultation with the relevant Network Utility Operator(s) who have existing assets that are directly affected by the Project, including Watercare.

(e) The NUSOP shall describe how strategic plans from the Network Utility Operators in relation to its assets have been addressed.

(f) Any comments received from the Network Utility Operator shall be considered when finalising the NUSOP.

(g) Any amendments to the NUSOP related to the assets of a Network.

This condition should allow all the utility companies and AT to work together prior to detailed design to ensure that new work is put in the correct long term position.

7.2 Condition 24(d) Network Utility Management Plan (NUMP) can be amended to read;-

*"(d) t*he development of the Network Utility Management Plan (NUMP) shall consider opportunities to coordinate future work programmes with other network utility operator(s) during detailed design where practicable."

This should ensure a level of consultation during the design phase, and thus minimise possible conflicts in new infrastructure location.

7.*3* Condition 18 (vi) of the Construction Traffic Management Plan (CTMP) should be amended to read;-

"(vi) methods to maintain access to property and/or private roads for pedestrians and vehicles where practicable, or to provide alternative access arrangements when it will not be;

This will ensure pedestrian connectivity is correctly considered in the project construction plans.

David Russell

Senior Development Engineer

Takaanini Level Crossings NoR

TECHNICAL EXPERT S.42A REPORT – TERRESTRIAL ECOLOGY

To:	Joe McDougall, Consultant Reporting Planner
From:	Simon Chapman (Auckland Council Consultant Ecologist, Ecology New Zealand)
Date:	02/02/2024

Applicants Name:	Te Tupu Ngātahi Supporting Growth Alliance
Project:	Takaanini Level Crossings NoRs

1. Introduction

1.1. Name and Experience

1.1.1. My full name is Simon Chapman. I am employed as a Principal Ecologist by Ecology New Zealand Limited (Ecology NZ). I have over 20 years' experience as a professional ecologist. I hold the qualifications of Bachelor of Science and Postgraduate Diploma in Applied Science, both from Lincoln University.

1.1.2. I consider myself to be a generalist ecologist with specialist skills in indigenous flora and fauna. My work experience includes the design and implementation of biodiversity surveys and monitoring programmes, undertaking and peer reviewing ecological impact assessments, and developing and implementing ecological mitigation, management, and restoration plans.

1.1.3. My employers and roles through my career include:

a. Ecology New Zealand (2016 - present): Ecology Manager and Principal Ecologist
b. Golder Associates (2014 – 2016): Group Leader – Water Management and Ecology
c. Andrew Stewart (2013 - 2014): Ecology Manager
d. Boffa Miskell (2007 - 2013):
    i. Principal Ecologist (2009 - 2013)
    ii. Senior Ecologist (2007 - 2009)
e. Envirologic (2001 - 2007): Principal Ecologist / Director

1.2. Role

1.2.1. I regularly provide ecological expertise to central and local government clients primarily for the processing of resource consent applications, Notices of Requirement, and plan changes. The topics I provide advice on include terrestrial, freshwater, wetland, and coastal ecology, threatened species monitoring and conservation, biodiversity offsetting / compensation, and ecological mitigation, management, and restoration.

1.2.2. This report is my expert technical evidence on the Takaanini NoR 1 & 2 and submissions relevant to my area of expertise. I have specialist ecological expertise and experience in matters directly relevant to this project, especially indigenous flora, and fauna, including lizards, bats and avifauna. In preparing this evidence I have reviewed the following documents:

- Takaanini Level Crossings Project Assessment of Effects on the Environment prepared by Daly Williams, George van Pelt, Adriene Grafia, Liam Winter.
- Takaanini Level Crossings Assessment of Ecological Effects prepared by Sahar Firoozkoohi and Conor Reid (version 1.0 dated 13/10/2023)
- Takaanini Level Crossings Arboriculture Effects Assessment prepared by Matthew Paul (version 1.0 dated 13/10/2023)
- Form 18 Notice of Requirement for Designation of Land under s168(2) RMA
- General Arrangement Plans Document

1.3. Code of Conduct

1.3.1. I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 and have complied with it in preparing this evidence and agree to comply with it when giving any oral evidence to the Hearing. Other than where I state that I am relying on the advice of another person, this evidence is within my area(s) of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

1.3.2. I have qualified my evidence where I consider that any part of it may be incomplete or inaccurate, and identified any information or knowledge gaps, or uncertainties in any scientific information or mathematical models and analyses that I am aware of, and their potential implications. I have stated in my evidence where my opinion is not firm or concluded because of insufficient research or data or for any other reason, and have provided an assessment of my level of confidence, and the likelihood of any outcomes specified, in my conclusion.

2. Scope and Structure

2.1. Subject Matter

2.1.1. This report relates to the Takaanini Notices of Requirement by Auckland Transport, which consists of:

- Takaanini (NoR 1) is for the construction, operation, maintenance and upgrade of transport infrastructure on and around Spartan Road, Manuia Road, Manuroa Road and Taka Street which includes the closure of the existing level crossings at Spartan Road, Manuroa Road and Taka Street, new bridges with general traffic lanes and walking and cycling facilities across the NIMT line at Manuia Road and Taka Street, new bridges with walking and cycling facilities across the NIMT line at Spartan Road and Manuroa Road, as well as all associated works.

- Takaanini (NoR 2) is for the construction, operation, maintenance, and upgrade of transport infrastructure within the Walters Road area of Takaanini which includes the closure of the existing level crossing at Walters Road, a new bridge with general traffic lanes and walking and cycling facilities across the NIMT line at Walters Road as well as local road connections and all associated works.

2.2. Limitations

2.2.1. I have not addressed issues that do not relate to terrestrial ecological matters and the scope of this submission relates to district level matters and not regional level matters.

2.3. Structure

1. Introduction
2. Scope and Structure
3. Summary of key issues
4. Comment on the Assessment of Effects by Supporting Growth Alliance
5. Submissions
6. Comment on SGA Proposed Conditions
7. Recommendations

3. Summary of key issues

3.1. Overview of issues

3.1.1. The Notices of Requirement (NoR) generally evaluate and avoid potential adverse ecological effects appropriately through the concept design presented in the general arrangement drawings. However, as detailed design will not occur until the time of regional consenting which may be a number of years away, it is possible that indigenous biodiversity (e.g., native bats, birds, and/or lizards) may be adversely affected by the Project.

3.1.2. That risk should be addressed by including an advice note in the designation conditions to highlight that effects on indigenous terrestrial biodiversity are to be reassessed as part of the regional consenting process.

3.1.3. Takaanini NoR 1, NoR 2: the assessment of effects on indigenous flora and fauna is sufficient for designation purposes. However, it would be prudent to including an advice note in the designation conditions to highlight that effects on indigenous flora and fauna are to be reassessed as part of the regional consenting process.

3.1.4. Takaanini NoR 1, and NoR 2: the assessments of effects on freshwater and wetland is sufficient for designation. However, it would be prudent to including an advice note in the designation conditions to highlight that effects on indigenous flora and fauna are to be reassessed as part of the regional consenting process.

3.2. Key issues

3.2.1. The NoR provides an adequate assessment of effects, and appropriately avoids potential and actual adverse ecological effects through the concept design shown in the general arrangement drawings.

3.2.2. As the presence, distribution, and abundance of indigenous fauna (bats, birds and lizards) can change over time, there is a risk that the Project's adverse ecological may not be the same in the future as they were at the time of the ecological assessment for the NoRs – especially given that a number of years may elapse before detailed design, regional consenting, and construction occur. Adding an advice note to the Proposed conditions aimed at ensuring appropriate ecological surveys and management are considered during regional consenting can be used to circumvent this issue.

Table 1: Key Ecological Issues in Takaanini NoRs

Notice of Requirement	Key (topic/area expertise) issues
Takaanini (NoR 1 & 2)	Most native birds and all native bats and lizards are absolutely protected under the Wildlife Act 1953. The Wildlife Act makes it an offence to disturb or harm protected species and/or their habitats without a permit from the Minister of Conservation. As the Project relates solely to proposed designations, the Ecological Assessment addresses district plan matters only. Regional matters (along with Wildlife Act (1953) compliance) will be addressed closer to the time of construction. The overall level of effect on lizards was assessed as 'High' prior to mitigation due to the probability of injury/death of copper skink during the removal of potentially suitable habitat across the site. A lizard salvage and relocation to be carried out by a Department of Conservation authorised herpetologist at the time of vegetation

	clearance was recommended in the Ecological Assessment. Vegetation clearance is largely a regional consenting matter therefore indigenous fauna surveys and management (if triggered by survey results) will be need to addressed during regional consenting.
Takaanini (NoR 1 & 2)	The Ecological Assessment identified the three artificial watercourses on site as having 'Low' habitat value for fish. The Project's effects on indigenous freshwater fauna and ecosystems will be considered at the regional resource consenting stage. The salvage and relocation of indigenous fish was recommended for the three artificial drains identified within the designation boundaries. The salvage must be conducted by a suitable qualified Ecologist who holds the relevant permits. The Ecological Assessment report recommended an erosion and sediment control plan to ensure sediment discharge is controlled appropriately as condition of any future regional resource consents obtained for earthworks adjoining the watercourses.
Takaanini (NoR 1 & 2)	The NPS-FM and the NES-F provide national direction for managing New Zealand's freshwater ecosystems. This direction includes avoiding any further loss or degradation of wetlands and streams and encouraging their restoration. The Ecological Assessment report highlighted that additional wetland surveys may be required at future regional consenting stage.

4. Comment on the Assessment of Effects by the Supporting Growth Alliance

4.1. Areas of disagreement

4.1.1. No areas of disagreement have been identified.

4.2. SGA Recommendations and Proposed Conditions

4.1.2. No conditions relating to ecology have been proposed by the Requiring Authority. To ensure that the Ecological Assessment's recommendations are adhered to, the Wildlife Act is complied with, and potential future ecological effects are managed appropriately, the designation conditions should include an advice note to highlight that further ecological assessments and or management plans may be required at the regional consenting stage.

5. Submissions

5.1. Submissions

5.1.1. No submissions raised any matters relating to terrestrial ecology.

5.2. Other Statutory Considerations

5.2.1. National Policy Statement for Freshwater Management 2020 (NPS-FM) and the National Environmental Standards for Freshwater 2020 (NES-F): The NPS-FM and the NES-F provide national direction for managing New Zealand's freshwater. This direction includes avoiding any further loss or degradation of wetlands and streams and encouraging their restoration.

5.2.2. Wildlife Act 1953: Most native birds, and all native lizards and bats are absolutely protected under the Wildlife Act 1953 under which it is an offence to disturb, harm, or remove them without an authority from the Minister of Conservation.

5.2.3. AUP: OP: Chapter B7, Natural Resources of the AUP: OP Regional Policy Statement is considered relevant as the objectives and policies in section B7.2 seek to ensure that indigenous biodiversity is maintained and degraded habitats enhanced, the loss of indigenous biodiversity and current or potential habitat for indigenous fauna is minimised and that any adverse effects are avoided, remedied or mitigated.

6. Recommendations

6.1. Advice Note for Further Ecological Assessments for Regional Consenting

6.1.1. The exclusion of designation consent conditions relating to ecological matters can be considered acceptable if an advice note to highlight the requirement for further ecological assessments at the regional consenting stage is included instead.

6.1.2. The Requiring Authority's draft conditions for the South FTN Project provide potentially suitable wording for such an advice note:

> ***Advice Note:***
> *Depending on the potential effects of the Project, the regional consents for the Project may include the following monitoring and management plans:*
>
> *i. Stream and/or wetland restoration plans;*
>
> *ii. Vegetation restoration plans; and*
>
> *iii. Fauna management plans (e.g., avifauna, bats).*

6.1.3. I ask that the Requiring Authority consider the above advice note in evidence at the hearing.

Simon Chapman | Principal Ecologist | 04 March 2024
Ecology New Zealand Limited – Consultant to Ecological Advice

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Technical Specialist Memo

To: Joy LaNauze, Reporting Planner

From: Patrick Shorten – Consultant Geotechnical Engineer

Date: 4 March 2024

Subject: Supporting Growth Alliance – Submissions on Takaanini Level Crossings (TLC) Project NoRs 1 and 2
Geotechnical Engineering Assessment

1.0 Introduction

I have undertaken a review, on behalf of Auckland Council, of the notified documentation for Notices of Requirements (**NoRs**) 1 and 2, lodged by the Requiring Authority, Auckland Transport, through the Supporting Growth Alliance (**SGA**), that relate to geotechnical effects, including the submissions.

In writing this memo, I have reviewed the following documents:

TLC Package - All NoRs

• Assessment of Effects on the Environment (**AEE**)
  ○ Appendix A - Assessment of Alternatives (**AA**)
  ○ Appendix H – Design Report

NoR 1 – Spartan Road, Manuia Road, Manuroa Road and Taka Street
• Form 18 • General Arrangement Plan – NoR 1 • Appendix B – Property Boundaries and Schedules – NoR 1 • Appendix C – Proposed Designation Conditions • 45 Submissions on NoR 1 (Submissions # 01 to # 45)
NoR 2 – Walters Road
• Form 18 • General Arrangement Plan – NoR 2 • Appendix B – Property Boundaries and Schedules – NoR 2 • Appendix C – Proposed Designation Conditions • 24 submissions on NoR 2 (Submissions # 01 to # 24)

Qualifications and Experience

I am a Principal of Fraser Thomas Ltd, a firm of consulting engineers providing professional services in civil, structural, geotechnical and environmental engineering and surveying and was formerly a Director until I recently retired and became a Principal.

I have 45 years' experience as a professional geotechnical engineer/engineering geologist, with 40 years in New Zealand. I hold a degree of Bachelor of Science (geology) (Hons) from the

University of Aberdeen 1974 and a Master of Science (engineering geology) 1977 from the University of Durham.

I am a Chartered Professional Engineer (CPEng), an International Professional Engineer (IntPE(NZ)) and a Chartered Member of Engineering New Zealand (CMEngNZ). I am also a member of the New Zealand Geotechnical Society.

I specialise in foundation engineering, geotechnical hazard assessments, engineering geology, forensic investigations and geotechnical quality control and assurance. I have a sound background in geotechnical investigations and appraisal for land, infrastructure and building developments. I have particular experience in determining the settlement effects of deep excavations and dewatering on neighbouring properties and have carried out technical reviews of effect assessments for Council, for more than 60 multi-storey buildings with multi-level basements and several infrastructure developments. Projects that have been reviewed include the Takanini Stormwater Conveyance Channel, the City Rail Link (CRL), the Central Interceptor Trunk Sewer, the Penlink Highway, the Britomart Transport Centre, the New Lynn rail trench and station, the Commercial Bay (Downtown) Centre, the Civic Quarter (Aotea Centre) Development and the Quay Street Strengthening Project. I have attended committee hearings on Council's behalf for notified applications, including the NoR and resource consent application for the Takanini Stormwater Conveyance Channel and the NoR for the Warkworth Roading Network.

I have also been involved with numerous projects that have required litigation support and provision of expert evidence for hearings in the High Court, the Environment Court, and mediations, arbitrations, adjudications and Council committee hearings.

I also provided geotechnical advice to the Ministry of Business Innovation and Employment (MBIE) Determinations Manager with regard to rock-roll and mass land movement hazards affecting dwellings in the Port Hills, Christchurch following the Canterbury Earthquakes.

Involvement with Takaanini Level Crossings NoR's

I was engaged by Auckland Council in March 2023 to review the notified documentation and submissions for the TLC NoR's (Nos. 1 and 2) to determine whether the information provided by the SGA was sufficiently detailed and accurate to understand the geotechnical effects of the proposal on the neighbouring properties.

These TLC notices of requirement authorise works to:

- Provide a new bridge over the rail line at Manuia Road, accommodating all transport modes, with a particular focus on providing for heavy vehicles accessing the industrial areas. A 35m single-span bridge and approach embankments with 1V:3H batter slopes are proposed.
- Replace current level crossings at Taka Street and Walters Road with new bridges, accommodating all transport modes. The new multi-span bridges will be 230m and 250m long at Taka Street and Walters Road respectively. Approach embankments of up to 2m height and with 1V:5H batter slopes are proposed, and possibly ground improvement, to mitigate adverse settlement effects.
- Replace existing Spartan Road and Manuroa Road level crossings with new minimum 30m single-span bridges for active modes (ie walking and cycling facilities).

I attended a Council specialist site visit to the project sites on 19 April 2023, which was also attended by SGA representatives.

I made requests for further information (RFI), which were included as items G1 to G3 in the letter from Auckland Council to SGA of 30 October 2023. SGA responded to my requests in their letter to Council of 10 November 2023.

Expert Witness Code of Conduct

I have read the Code of Conduct for Expert Witnesses, contained in the Environment Court Consolidated Practice Note (2014) and I agree to comply with it. I can confirm that the issues addressed in this Memo are within my area of expertise and that in preparing this Memo I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

2.0 Key Geotechnical Issues Raised by Submissions

The key geotechnical issues, including issues with a geotechnical component, raised by the submissions relate to:

- The Assessment of Alternatives, which considers a range of options for the proposed crossings [including options of raising the railway (i.e. rail-over-road), lowering the railway (i.e. rail-under-road), raising the road (i.e. road-over-rail) or lowering the road (i.e. road-under-rail)], is deficient. This issue includes an assessment of Natural Hazards as part of the Multi - Criteria Assessment (MCA) of each option and therefore includes a geotechnical component; there has been inadequate consideration of alternative sites, routes or methods for the proposed grade-separated crossings;

- Adverse geotechnical effects on existing buildings and infrastructure at the Takanini Town Centre, including on the underground basement to the building in the southeast corner of the [Takanini Town Centre] site; Conditions should be imposed to ensure the minimum practicable impact on Takanini Town Centre especially in terms of …, geotechnical risks, …
- Insufficient information is provided to demonstrate that the designated works can proceed without undermining the foundations of the units to be constructed at 164-166 Porchester Road.

The key geotechnical issues, including issues with a geotechnical component, raised by the submissions on NoRs 1 and 2 are summarised in the table below.

Notice of Requirement	Submission	Issue
NoR 1 (Spartan Road, Manuia Road, Manuroa Road and Taka Street); and NoR 2 (Walters Road).	Submissions #33 (NoR 1) and #12 (NoR 2) - KiwiRail	In their two submissions, KiwiRail state: *"KiwiRail requires further detail prior to KiwiRail granting any approval as the Requiring Authority pursuant to Section 177 of the Resource Management Act 1991. This detail includes:* *- that all safety and operational concerns arising from structures over and adjacent to the rail corridor are addressed, including but not limited to ongoing effects on corridor stability."*

NoR 1 – Spartan Road, Manuia Road, Manuroa Road and Taka Street	Submissions #4 – Takanini Business Association Inc., #5 – Brian Hogan, #10 – M. Koppens & D. Ibbett, #13 – The Runciman Trust, #21 – Silverfin Capital Limited, #24 – BNAP Holdings Limited, #28 – On Track Trust, #31 – Vertex Lubricants, #37 – Takanini Village Limited & Tonea Properties (NZ) Limited , #38 – Sunlight Holdings Limited & South Auckland Marine Limited, #39 – Mead Trusts Holdings Limited & Carters Buildings Supplies Limited and #40 – Arborfield Trust, Takanini Home & Trade Limited & Mitre 10 Mega Takanini Limited.	The Assessment of Alternatives considers a range of alternatives for the proposed crossings, including broadly options of raising the railway (i.e. rail-over-road), lowering the railway (i.e. rail-under-road), raising the road (i.e. road-over-rail) or lowering the road (i.e. road-under-rail). The submitters are of the view that the assessment of alternatives is deficient. There has been inadequate consideration of alternative sites, routes or methods for the proposed grade-separated crossings;
	Submissions #4 - Takanini Business Association Inc., #28 - On Track Trust and #31 - Vertex Lubricants.	However, should the option as proposed of raising the road (i.e. road-over-rail) be preferred, then to avoid, remedy or mitigate the effects of that option, the submitters agree with the proposals by the applicant to include conditions and detailed plans, including: …• detailed design and construction planning.
NoR 2 – Walters Road	Submissions #3 - Takanini Business Association Inc., #9 – The Blacksmith Restaurant & Bar, #15	The Assessment of Alternatives considers a range of alternatives for the proposed crossings, including broadly options of raising the railway (i.e. rail-over-road), lowering the railway (i.e. rail-under-road), raising the road (i.e. road-over-rail)

	– Takanini Childcare Investments Limited, #17 - Takanini Village Limited & Tonea Properties (NZ) Limited, #18 - Sunlight Holdings Limited & South Auckland Marine Limited, #19 - Mead Trusts Holdings Limited & Carters Buildings Supplies Limited and #20 - Arborfield Trust, Takanini Home & Trade Limited & Mitre 10 Mega Takanini Limited.	or lowering the road (i.e. road-under-rail). The submitters are of the view that the assessment of alternatives is deficient. There has been inadequate consideration of alternative sites, routes or methods for the proposed grade-separated crossings.
	Submission #3 – Takanini Business Association Inc.	However, should the option as proposed of raising the road (i.e. road-over-rail) be preferred, then to avoid, remedy or mitigate the effects of that option, the submitters agree with the proposals by the applicant to include conditions and detailed plans, including: …• detailed design and construction planning.
	Submission #17 - Takanini Village Limited and Tonea Properties (NZ) Limited – for Takanini Town Centre	Adverse geotechnical effects on existing buildings and infrastructure, including on the underground basement to the building in the southeast corner of the [Takanini Town Centre] site; In the event that NoR1 and NoR2 are confirmed, the Submitters are concerned that the recommended mitigation and condition response proposed by the Requiring Authority will not adequately mitigate the actual and potential adverse effects of the Project on the Takanini Town Centre and the surrounding business and residential landowners. Conditions should be imposed to ensure the minimum practicable impact on Takanini Town Centre especially in terms of …, geotechnical risks, …
	Submissions #10 – Alda Investments	Insufficient information is provided to demonstrate that the designated works can proceed without

	Limited and #11 - DE Nakhle Investment Trust (DNIT) – both for 164 to 166 Porchester Road	undermining the foundations of the units [to be constructed at 164-166 Porchester Road]. Alda and DNIT seek that the NoR is recommended to be withdrawn. In the alternative, Alda and DNIT seek conditions to ensure AT addresses each of the issues raised in their submissions including a condition that: d. Ensures that there is no damage to the buildings to be constructed at 164-166 Porchester Road, including to their foundations;

3.0 Supporting Growth Alliance Assessment

3.1 SGA Approach to Geotechnical Design

SGA's approach to geotechnical design is outlined at Section 9.5 of the AEE, which states:

> *"Geotechnical effects arising from construction of the Project will be dealt with as required as part of future regional consenting processes. The Project is currently seeking designations which authorises District Plan matters only, with the relevant assessment considerations limited to those within AUP:OP Chapters E12 Land Disturbance – District and E36 Natural Hazards. It is noted that the project areas are not on land that would be considered as land which may be subject to instability under the AUP:OP.* ***Any RP requirements and necessary effects mitigation will be subject to additional future consenting processes and assessment*** **[my bolding]**.
>
> *On this basis, the level of assessment of geotechnical assessment and design is commensurate with the authorisations currently being sought and has primarily been undertaken to inform options assessment and designation footprint. More specifically, geotechnical-related matters such as ground stability and the anticipated construction requirements for the scale/context of works have been considered as part of the Project's design, the alternatives assessment process, and to inform the proposed designation footprint. Geotechnical engineers were involved in the proposed indicative design and verification of the design. Of note are the following geotechnical design parameters and considerations made during the design process:*
>
> *Slope stability*
>
> • *Desktop assessment including review of recent and historic investigation was undertaken as part of this phase of design, but this does not include numerical analysis at this stage. Stability of slopes has been assessed based on the mapped geomorphology, and the performance of similar geological areas.*
>
> • *1V:3H slopes have been adopted as the default batter for cut and fill slopes to meet maintenance requirements. Within the Auckland region, similar slopes have been widely utilised successfully in soils that do not have known slope instability issues.*
>
> • *1V:5H slopes have been adopted in areas underlaid by soft soils/peat with the maximum embankment height of 2m. This is in the case of Manuroa Road and Taka Street. Mechanically stabilised earth walls or bridge structure is to be provided once maximum height is achieved. It is acknowledged that additional ground improvement*

measures may also be needed to mitigate the effects of settlement which could include installing wick drains or by stabilising the soils with rigid inclusions or stone columns.

Retaining walls

- *Vertical retaining walls are proposed where necessary within the indicative design to limit impact on properties and manage topographic constraints. Fill walls have been assumed to be constructed using generic mechanically stabilised earth techniques.*

- *The level of geotechnical information currently available reflects the stage of design (i.e., indicative for NoR purposes) and what is needed to inform the designation footprint. As such, retaining walls were assumed and detailed as typical with the most suitable wall types identified to inform the indicative construction methodology and cost estimation. Final decisions around wall type will be undertaken during subsequent design phases once further site investigation is carried out.*

Bridge abutments

- *Vertical abutment walls have been adopted as the default approach to bridge abutments within the existing urbanised/industrial area. The vertical abutment walls have been assumed to be constructed using mechanically stabilised earth walls. No specific design of abutment walls slope stability has been carried out during this phase of design.*

Assumptions made on the location of piles as they relate to construction noise and vibration effects are further discussed in the Assessment of Construction Noise and Vibration Effects Report included in Volume 4 of the application.

It is noted that the MCA undertaken for the Assessment of Alternatives (refer to Appendix A of the AEE) includes natural hazards and construction risk criteria which base high-level assessment in part on assumed ground conditions. These in turn were based on review of publicly available site investigation data from the New Zealand Geotechnical Database. The resultant ground profile adopted for the purposes of this assessment is as follows:

- *0-2m bgl – Fill;*
- *2-12m bgl – Peat (Ardmore Member);*
- *12-18m bgl – Soft Clay (Takaanini Formation);*
- *18-30m bgl – Stiff Alluvium (Takaanini Formation);*
- *Unknown depth to top of Waitematā Group rock; and*
- *Groundwater level assumed at 2m bgl.*

It is anticipated that targeted local geotechnical investigations may be required and undertaken to support the future regional consenting process."

Given that the source data for the ground conditions at the NoR 1 sites was not provided in the notified documentation, I requested that information from SGA (ref G2 of the RFI) as follows:

"*Please provide copies of the source data that was used to assess the ground conditions at the NOR 1 sites (Spartan Road, Manuia Road, Manuroa Road and Taka Street), including a copy of any reports or maps.*

Rationale: Given that the sites are known to be underlain by highly compressible organic soils and soft sediments, there is a risk that construction of any proposed crossing structures will result in adverse effects on the environment."

In their response, SGA stated:

> "*The approach to geotechnical design is summarised in section 9.5 of the AEE. The concept design on which the AEE is based was initially developed for a Detailed Business Case (DBC), which in turn is supported by a Design Report. The Design Report covers the approach to geotechnical design, and the data on ground conditions across the project area used to inform high-level design assumptions which have been summarised to the extent relevant in the AEE. The relevant geological map from the Design Report is shown below* [refer Figure 1 below]. *The report can be provided on request (noting that it is part of a series of technical reports prepared for a Detailed Business Case).*
>
> *To further contextualise the above approach, it is noted that only designations are being sought – i.e. authorisation for land use/District Plan matters only.* ***Geotechnical and groundwater effects arising from the construction of the project will be dealt with as required as part of future regional consenting processes. Any Regional Plan requirements and necessary effects mitigation will be subject to additional future consenting processes and assessment*** **[my bolding].** *On this basis, the level of geotechnical assessment and design is commensurate with the authorisations currently being sought.*"

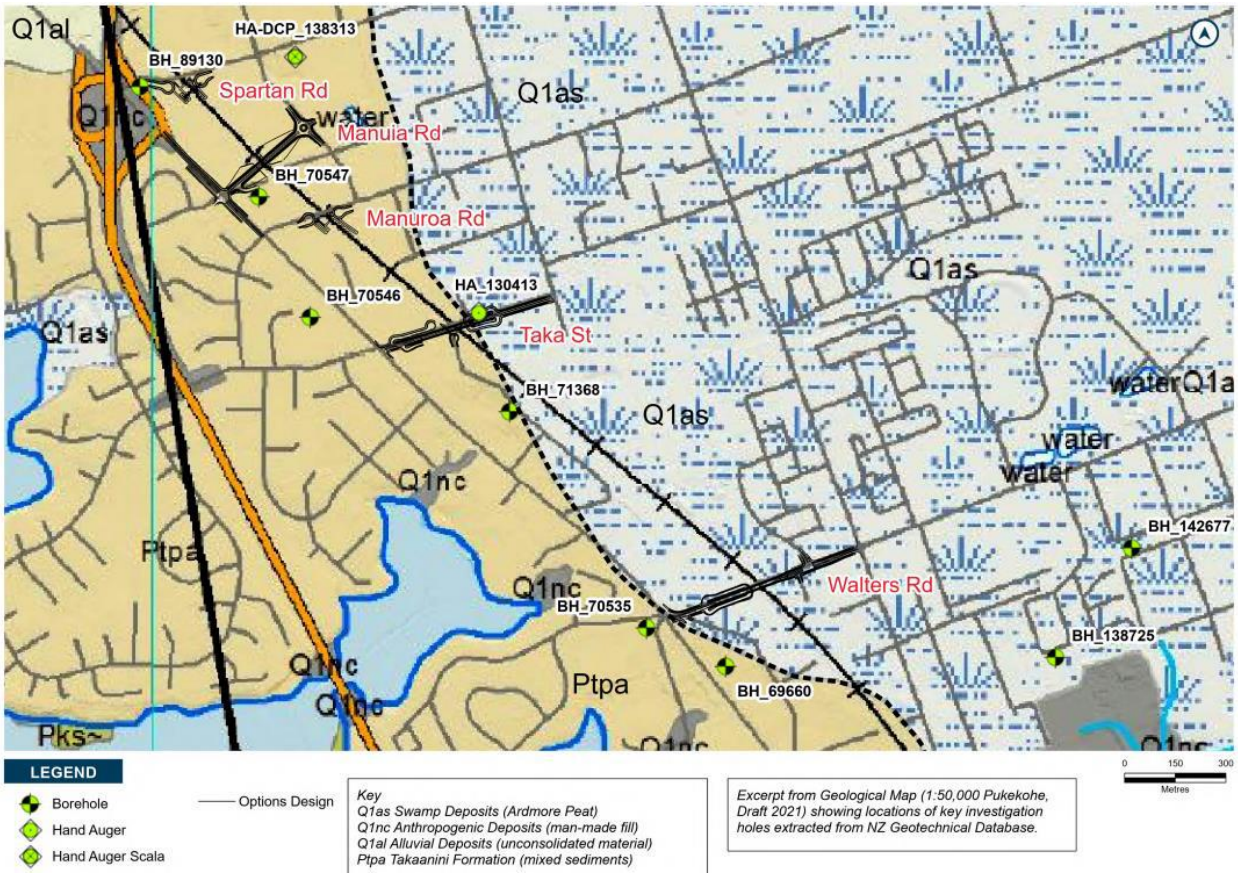

Figure 1: Geological Map (from Appendix B of SGA Design Report)

3.2 SGA Design Report

I requested the Design Report from SGA and it was provided to me.

At Sections 3 and 4 of the Design Report, referring to the Spartan Road and Manuia Road crossings respectively, it is stated:

"Geological maps indicate that the entire alignment is underlain by undifferentiated sedimentary deposits of the Takaanini Formation [refer to Figure 1 above], *which is the proposed new name for what has formerly been called the Puketoka Formation and is assigned to the broader classification, the Tauranga Group. In the Takaanini area these deposits are characterised by the presence of some rhyolitic pumice originating from volcanic airfall but are likely to be dominated by alluvial clays and silts of variable stiffness, with minor layers of sands and organic materials. At depth below these strata will lie interbedded sandstones and siltstones of the East Coast Bays Formation. The maps [refer map above] indicate that the western limit of the soft and compressible peat soils characteristic of eastern areas of Takaanini (the Ardmore Peat) does not encroach on the alignment."*

At Section 3 of the Design Report, for Spartan Road, it is stated:

"The available geological information supports the default design for earthworks. Piled foundations into the East Coast Bays Formation will work easily if needed. Should design only impart light loads to the ground, the possible use of shallow foundations might be achievable if confirmed by targeted local geotechnical investigations."

At Section 4 of the Design Report, for Manuia Road, it is stated:

"*The available geological information supports the default design for earthworks, i.e. embankment batters of 1V:3H. Piled foundations into the East Coast Bays Formation should be feasible. Local geotechnical investigations will be needed to assess the geotechnical characteristics of the Takaanini Formation soils, indicate what depths foundations may need to be taken to and confirm the earthworks design approach. The possible presence of some soft soils beneath the approach embankments will potentially require some ground improvement, for example preloading with wick drains to reduce residual settlement to an acceptable degree. Monitoring with geotechnical instruments will be needed during and postconstruction to track the rate of settlement and confirm that that ground distortion stays within tolerance."*

At Section 5 of the Design Report, for Manuroa Road, it is stated:

"*Geological maps* [refer map above] *indicate that the entire alignment is underlain by undifferentiated sedimentary deposits of the Takaanini Formation (formerly the Puketoka Formation and belonging to the larger scale Tauranga Group), refer to Appendix B on this report. The maps indicate that the soft and compressible peat soils characteristic of eastern areas of Takaanini (the Ardmore Peat) does not encroach on the alignment. However, a historic drillhole undertaken on the west side of Great South Road (BH_70546 in the NZGD) logged firm organic silt with fibrous organics from 2.4m depth to the base of the hole at 6.0m. Although these materials may not be as poor quality as in the centre of the deposit, this log implies that the western margin of the Ardmore Peat lies much further to the SW than shown on the geological maps and that the Manuroa Road pedestrian / cycle bridge is sited on the peat body*."

and

"*The potential presence of soft compressible organic soils under the bridge site and its approaches indicates that any foundations will need to be taken on piles down into the East Coast Bays Formation. This also means that earthwork embankments will need to be kept below 2m height and constructed with side slopes of 1V:5H if any earthworks are to be undertaken. Local geotechnical investigations will be needed to prove the geological*

sequence, confirm the ground properties, and identify the depths of suitable founding materials."

At Section 6 of the Design Report, for Taka Street, it is stated:

"*Interpolation between these holes and drillhole BH_70546 in St Aidan's Reserve 475m to the west indicates that the boundary of the swamp deposits* [Ardmore Peat] *is further west than mapped and that the Ardmore Peat body potentially underlies much of the alignment. Where the material is not peat it is likely to be stiff alluvial clays and silts of the Takaanini Formation (Tauranga Group) with some pumiceous content. At depth below these strata will lie interbedded sandstones and siltstones of the East Coast Bays Formation, the upper part of which may be weathered to a soil condition.*

The potential presence of soft compressible organic soils under the bridge site and its approaches indicates that any foundations will need to be taken on piles down into the underlying East Coast Bays Formation. Soft soils will also govern the height of earthwork embankments, which will need to be kept below 2m height and constructed with side slopes of 1V:5H. Even with embankment height restricted to maintain slope stability, it is likely that additional ground improvement measures will be needed to mitigate the effects of settlement, such as by installing wick drains or by stabilising the soils with rigid inclusions or stone columns. Local geotechnical investigations will be needed to confirm the indications from the NZGD, prove the geological sequence, measure the ground properties and identify the depths of suitable founding materials. Long-term monitoring will be required with geotechnical instruments to track post-construction settlement and confirm that the ground distortions are within tolerance."

At Section 7 of the Design Report, for Walters Road, it is stated:

"*Geological maps indicate that the entire alignment at Walters Road lies on an area of swamp deposits classified as the Ardmore Peat. The mapped western limit of these deposits is the roundabout with Great South Road."*

and

"*The presence of soft compressible organic soils under the bridge site and its approaches indicates that any foundations will need to be taken on piles down into the underlying East Coast Bays Formation. Soft soils will also govern the height of earthwork embankments, which will need to be kept below 2m height and constructed with side slopes of 1V:5H. Even with embankment height restricted to maintain slope stability, it is likely that additional ground improvement measures will be needed to mitigate the effects of settlement, such as by installing wick drains or by stabilising the soils with rigid inclusions or stone columns. Where the site boundary is too close to allow the embankment toe to be 10m from the slope crest, an MSE retaining wall will be required.*

Local geotechnical investigations will be needed to prove the geological sequence, measure the ground properties and identify the depths of suitable founding materials. Long-term monitoring with geotechnical instruments will be required to track postconstruction settlement and confirm that the ground distortions are within tolerance."

From the above excerpts from the Design Report, it is apparent that the available geological data indicates that the proposed alignments at Spartan Road and Manuia Road lie to the west of the Ardmore Peat deposits, which are soft and highly compressible, and are underlain by undifferentiated sedimentary deposits of the Takaanini Formation. The ground conditions for

those two alignments are therefore inferred to be favourable for the proposed bridge structures and approach embankments with batter slopes of 1V:3H.

It is also apparent that the Ardmore Peat body potentially underlies the proposed alignments at Manuroa Road, Taka Street and Walters Road. The ground conditions for these three alignments are therefore inferred to be less favourable for the proposed bridge structures and approach embankments. SGA therefore propose maximum embankment heights of 2m and batter slopes of 1V:5H, and possibly ground improvement measures, for these three alignments.

3.3 NoR 2 - Walters Road

For NoR 2, the AA report refers to reports by third parties (Riley Consultants Limited and Coffey Geotechnics NZ Ltd) and I therefore requested that information from SGA (ref G1 of the RFI). SGA responded as follows:

> "*These documents were prepared by third parties and were provided to Auckland Transport (AT) through earlier project engagement with those parties to inform the optioneering process. Given that these documents were not prepared by Te Tupu Ngātahi nor AT, we recommend that Auckland Council seek the documents directly from the parties that commissioned the documents if it considers them relevant to the assessment of effects of the project. In any event, the parts of the reports that are pertinent to the consideration of alternatives are summarised in the Assessment of Alternatives, including ground investigation information provided by Coffey Geotechnics NZ Ltd, which was considered by AT as part of its recent re-evaluation of options. The details of the alternative Riley underpass design are also outlined in the Assessment of Alternatives Report."*

Sufficient information from the reports is provided in the AA report for the purposes of my review and I therefore decided to rely on that information.

A review of the Coffey report data for Walters Road was carried out by SGA and is presented at section 9.3.2 of the AA Report. A revised ground profile, based on the Coffey data, is presented, which shows the depth to the base of the Ardmore Peat at 9.8m, which is slightly less than the 12m depth that SGA had assumed, as shown in section 9.5 of the AEE [refer to profile reproduced at page 7 above].

At section 9.4 of the AA report, the results of SGA's retesting of the MCA assessment of physical form options for grade-separation at Walters Road (documented in section 8 of the AA report), in the light of the new information provided in the Coffey and Riley reports. In the commentary to the Natural Hazards criterion of the MCA at Table 9-6 in section 9.4, it is stated that:

> "*As noted at 9.3.2, the geotechnical data provided by TG experts enabled some refinement of the ground profile resulting in changes to sheet piling depth assumptions for excavations of less than 5m, but not for secant wall piling depth assumptions at greater than 5m. Other aspects of the previous assessment were considered to remain valid with the new geotechnical data – high groundwater table and large combined thickness of soft peat and alluvium present an elevated settlement risk profile for an underpass when compared with a bridge.*
>
> *Accordingly, no change in the preferred option or scoring differential between the two options."*

The retested MCA score for the Natural Hazards criterion, which reflects the geotechnical issues, in Table 9-6 is more favourable for the bridge option than for the road underpass option

3.4 Designation Boundaries

I requested further information from SGA (ref G3 of the RFI) as follows:

"*Please provide typical sections across the conceptual bridge/embankment/retaining structures, to demonstrate the relationship between the physical geometry and the proposed designation boundaries on each side of the structures.*

Rationale: To demonstrate the relationship between the physical geometry and the proposed designation boundaries on each side of the structures."

In their response to the RFI, SGA stated:

> "*The following information can be used to gain a general understanding of the relationship between the indicative proposed works (i.e., retaining walls, embankments, bridges) and the designation boundaries:*
>
> - *The General Arrangement Plans (refer to Volume 3 of the lodgement package);*
> - *The indicative project details and work descriptions in Section 3.3 of the AEE i.e., vertical and horizontal clearances (refer to Volume 2 of the lodgement package);*
> - *The indicative geotechnical assumptions in Section 9.5 of the AEE (refer to Volume 2 of the lodgement package); and*
> - *The visualisations in Section 10.4 of the AEE (refer to Volume 2 of the lodgement package).*
>
> *The proposed works relative to the designation boundaries will be further refined as part of the Outline Plan and management plan process. Concept level design has been undertaken to inform the designation boundaries."*

3.5 Conclusion

I concur with SGA on their approach to geotechnical design for the NoRs and it is my opinion that their geotechnical assessment, as set out in the AA and Design reports, is sufficient for the purposes of determining concept designs for the proposed bridge structures and approach embankments and the Designation boundaries for NoR 1 and NoR 2. The main potential adverse geotechnical effect would be settlement in response to fill or structural loads or groundwater lowering, which could extend beyond the proposed Designation boundaries. This effect can be mitigated by design measures, which would be determined at the regional consent stage and would be subject to the AUP requirements.

However, it is noted that NoR 1: Submission #17 – BP Oil NZ Limited, which relates to the property at 102 Great South Road (adjacent to the proposed Manaia Road alignment), specifically asks for the designation extent to be reduced (refer paragraph 13 of BP submission): "*The Submitter therefore seeks that the encroachment of the fill batter on the southern and western boundaries and berm into the site be reduced or amended to an alternative option, such as retaining, to enable the greatest possible site size to provide a workable service station*." It is therefore recommended that SGA provide a typical section(s) in order to demonstrate how the designation boundary has been set at that property and whether options are available to minimise the designation extent, thereby mitigating adverse effects on the property.

4.0 Comments on geotechnical aspects of the SGA assessment that relate to the submissions

My comments on the aspects of the SGA assessments of the NoRs that relate to the submissions I am assessing are as follows:

Notice of Requirement	SGA Assessment	Comments
NoR 1 (Spartan Road, Manuia Road, Manuroa Road and Taka Street); and NoR 2 (Walters Road).	**Assessment of Alternatives – Geotechnical Aspects** At Section 6.1 of the AA – Initial Consideration of Physical Form - Context it is stated: "*Optioneering … commenced with an initial assessment of the physical form of grade separation to be assumed for subsequent network optioneering. This broadly considered four means of achieving grade separation of road and rail:* • *Raising the railway – i.e. rail-over-road;* • *Lowering the railway – i.e. rail-under-road;* • *Raising the road – i.e. road-over-rail; or* • *Lowering the road – i.e. road-under-rail."* At Section 6.2.2 of the AA, it is stated that: "• *The rail viaduct was not progressed on the basis that it would be highly disruptive to rail operations, costly and complex to construct relative to alternatives, and would result in significant visual effects and land requirements over a lengthy section of the NIMT; and* • *While perhaps the best outcome in terms of visual effects, the rail trench was not progressed on the basis that it would be highly disruptive to rail operations, and correspondingly more costly and complex to construct compared with the rail viaduct given the groundwater effects and risk*	As shown in the table in Section 2.0 above, several submitters (NoR 1: #4 - Takanini Business Association Inc., #5 – Brian Hogan, #10 - M. Koppens & D. Ibbett, #13 – The Runciman Trust, #21 – Silverfin Capital Limited, #24 – BNAP Holdings Limited, #28 – On Track Trust, #31 – Vertex Lubricants, #37 – Takanini Village Limited & Tonea Properties (NZ) Limited , #38 – Sunlight Holdings Limited & South Auckland Marine Limited, #39 – Mead Trusts Holdings Limited & Carters Buildings Supplies Limited and #40 – Arborfield Trust, Takanini Home & Trade Limited & Mitre 10 Mega Takanini Limited and NoR 2: #3 - Takanini Business Association Inc., #9 – The Blacksmith Restaurant & Bar, #15 – Takanini Childcare Investments Limited, #17 - Takanini Village Limited & Tonea Properties (NZ) Limited, #18 - Sunlight Holdings Limited & South Auckland Marine Limited, #19 - Mead Trusts Holdings Limited & Carters Buildings Supplies Limited and #20 - Arborfield Trust, Takanini Home & Trade Limited & Mitre 10 Mega Takanini Limited.) stated that they considered that the SGA assessment of options for the proposed crossings in the AA is deficient.

	associated with a 3.7km underpass in peat." and "…rail grade changes were ruled out as a means of achieving grade-separation." At Section 8.1 of the AA, it is stated: "*The MCA [Multi- Criteria Assessment] Framework developed by Te Tupu Ngātahi was again used as the main tool for comparing the options. The Walters Road project area was used as the case study for this assessment."* The MCA scoring for the bridge and underpass options is shown in Table 8-3 of the AA. The Natural Hazards criterion is one of 19 criteria shown on the table. At Section 8.4 of the AA, it is stated that: "*On the basis of the above [MCA] assessment, the bridge option was identified as the technically preferred physical form of grade separation at Walters Road. … The key constraints identified in the above assessment for the Walters Road underpass option relating to ground conditions, construction complexity, lack of resilience, and urban design and safety concerns for the community were also considered relevant at the Taka Street and Manuia Road project areas; and no material differentiating factors for assessment in these locations were identified. Accordingly, bridges were similarly recommended as the preferred physical form of grade separation in those locations. Underpass options were not considered further at this stage of assessment.*" With respect to the Natural Hazards criterion, at Section 8.3 of the AA, it is stated: *"• Natural Hazards – The natural hazards assessment considered the risks posed by ground conditions.*	However, as set out in the middle column of this table, it is evident that the four options for grade separation were considered in the AA and that it was concluded from the MCA that the Bridge option is preferred to the Underpass option, based on the assessment of the Walters Road crossing, and that the Natural Hazards criterion was considered to be more favourable for the Bridge option (moderately adverse) than for the Underpass option (highly adverse) at Walters Road (the case study). I consider that, with respect to the Natural Hazards criterion of the MCA, the SGA assessment is sufficient for the purposes of the NoR for Walters Road and Taka Street, which have similar ground conditions. However, the Manuia Road alignment is inferred to be clear (to the west) of the Ardmore Peat body and the ground conditions are therefore assumed to be more favourable than those at Walters Road. I therefore recommend that SGA confirm that their MCA assessment for Walters Road is applicable to the Manuia Road alignment, given the differing ground conditions. As shown in the table in Section 2.0 above, several submitters (NoR 1: #4 - Takanini Business Association Inc., #28 - On Track Trust and #31 - Vertex Lubricants and NoR 2: #3 - Takanini Business Association Inc.) state:

	Much of the alignment was assumed to be underlain by soft peat and alluvium (large thickness of >10m), which is susceptible to settlement if loaded or if groundwater level is lowered. This ground condition presents an elevated settlement risk profile for an underpass compared with a bridge, and the potential for ground movement may impact existing infrastructure and service surrounding the site (including the NIMT) if not controlled. The bridge option presents less settlement risk than an underpass, but settlement and seismic loading considerations may limit embankment heights. In summary, the bridge option was preferred under this criterion."	*"…should the option as proposed of raising the road (i.e. road-over-rail) be preferred, then to avoid, remedy or mitigate the effects of that option, the submitters agree with the proposals by the applicant to include conditions and detailed plans, including:* *…• detailed design and construction planning."* In their response to RFI item G2 (see section 3.1 above), SGA stated: "*… it is noted that only designations are being sought – i.e. authorisation for land use/District Plan matters only. Geotechnical and groundwater effects arising from the construction of the project will be dealt with as required as part of future regional consenting processes. Any Regional Plan requirements and necessary effects mitigation will be subject to additional future consenting processes and assessment."* Although s176A (3) of the RMA requires that the Outline Plan for the proposed works must show, amongst other things, "*any other matters to avoid, remedy, or mitigate any adverse effects on the environment.",* I suggest that a condition be included in the NoR condition set that requires potential adverse geotechnical effects to be addressed as part of the detailed design that will be undertaken in support of the Regional Consent application for the proposed TLC works.

Submissions #33 (NoR1) and #12 (NoR2) - KiwiRail	**Adverse Geotechnical Effects**	In their two submissions, KiwiRail state: *"KiwiRail requires further detail prior to KiwiRail granting any approval as the Requiring Authority pursuant to Section 177 of the Resource Management Act 1991. This detail includes:* *- that all safety and operational concerns arising from structures over and adjacent to the rail corridor are addressed, including but not limited to ongoing effects on corridor stability."* I suggest that a condition be included in the NoR condition set that requires potential adverse geotechnical effects to be addressed as part of the detailed design that will be undertaken in support of the Regional Consent application for the proposed TLC works. In my opinion, the risk of any adverse geotechnical effects on the railway corridor and services will be able to be mitigated by including appropriate measures in the detailed design for the works.
NoR 2 (Walters Road) **Submission #17 - Takanini Village Limited and Tonea Properties (NZ) Limited – for Takanini Town Centre**	**Adverse Geotechnical Effects** In their response to RFI item G2 (see section 3.1 above), SGA stated: "… *it is noted that only designations are being sought – i.e. authorisation for land use/District Plan matters only. Geotechnical and groundwater effects arising from the construction of the project will be dealt with as required as*	As shown in the table in Section 2.0 above, the submitters (Submission #17 - Takanini Village Limited & Tonea Properties (NZ) Limited) state a concern that the proposed works will cause: *"Adverse geotechnical effects on existing buildings and infrastructure, including on the underground basement to the*

	part of future regional consenting processes. Any Regional Plan requirements and necessary effects mitigation will be subject to additional future consenting processes and assessment."	*building in the southeast corner of the [Takanini Town Centre] site;* *In the event that NoR1 and NoR2 are confirmed, the Submitters are concerned that the recommended mitigation and condition response proposed by the Requiring Authority will not adequately mitigate the actual and potential adverse effects of the Project on the Takanini Town Centre and the surrounding business and residential landowners.* *Conditions should be imposed to ensure the minimum practicable impact on Takanini Town Centre especially in terms of …, geotechnical risks, …"* I suggest that a condition be included in the NoR condition set that requires potential adverse geotechnical effects to be addressed as part of the detailed design that will be undertaken in support of the Regional Consent application for the proposed TLC works. In my opinion, the risk of any adverse geotechnical effects on the Takanini Town Centre buildings and services will be able to be mitigated by including appropriate measures in the detailed design for the works.
NoR 2 (Walters Road) - Submissions #10 – Alda Investments Limited and #11 -	**Adverse Geotechnical Effects** In their response to RFI item G2 (see section 3.1 above), SGA stated: "… it is noted that only designations are being sought – i.e. authorisation for land use/District Plan matters only.	As shown in the table in Section 2.0 above, the submitters (Submissions #10 - Alda Investments Limited and #11 - DNIT) state:

DNIT – both for 164 to 166 Porchester Road.	Geotechnical and groundwater effects arising from the construction of the project will be dealt with as required as part of future regional consenting processes. Any Regional Plan requirements and necessary effects mitigation will be subject to additional future consenting processes and assessment."	*"Insufficient information is provided to demonstrate that the designated works can proceed without undermining the foundations of the units [to be constructed at 164-166 Porchester Road].* *Alda and DNIT seek that the NoR is recommended to be withdrawn. In the alternative, Alda and DNIT seek conditions to ensure AT addresses each of the issues raised in their submissions including a condition that:* *d. Ensures that there is no damage to the buildings to be constructed at 164-166 Porchester Road, including to their foundations;"* It appears likely that any TLC road widening works adjacent to 164-166 Porchester Road will be minor and at grade and should not therefore cause damage to the buildings that are to be constructed at this property. However, I suggest that a condition be included in the NoR condition set that requires potential adverse geotechnical effects to be addressed as part of the detailed design that will be undertaken in support of the Regional Consent application for the proposed TLC works.

5.0 Conclusions and Recommendations

My conclusions and recommendations relating to the geotechnical issues that have been raised by the submissions on NoRs 1 and 2 are presented in the following Sections 5.1 and 5.2.

5.1 Conclusions

(a) I concur with SGA on their approach to geotechnical design for the NoRs and it is my opinion that their geotechnical assessment, as set out in the AA and Design reports,

is sufficient for the purposes of determining concept designs for the proposed bridge structures and approach embankments and the Designation boundaries for NoR 1 and NoR 2.

(b) It is possible that there could be adverse geotechnical effects beyond the NoR boundaries, such as settlement or undermining of existing foundations. However, these potential adverse effects are able to be mitigated by appropriate design measures as part of the detailed design undertaken in support of the Regional Consent application for the proposed TLC works.

(c) From the above excerpts from the Design Report (see section 3.2 above), it is apparent that the available geological data indicates that the proposed alignments at Spartan Road and Manuia Road lie to the west of the Ardmore Peat deposits, which are soft and highly compressible, and are underlain by undifferentiated sedimentary deposits of the Takaanini Formation. The ground conditions for those two alignments are therefore inferred to be favourable for the proposed bridge structures and approach embankments with batter slopes of 1V:3H.

(d) It is also apparent from the Design Report that the Ardmore Peat body potentially underlies the proposed alignments at Manuroa Road, Taka Street and Walters Road. The ground conditions for these three alignments are therefore inferred to be less favourable for the proposed bridge structures and approach embankments. SGA therefore propose maximum embankment heights of 2m and batter slopes of 1V:5H, and possibly ground improvement measures, for these three alignments.

(e) With respect to the Natural Hazards criterion of the MCA, the SGA assessment is sufficient for the purposes of the NoR for Walters Road and Taka Street, which have similar ground conditions. However, the Manuia Road alignment is inferred to be clear (to the west) of the Ardmore Peat body and the ground conditions are therefore assumed to be more favourable than those at Walters Road.

(f) The risk of any adverse geotechnical effects on the Takanini Town Centre buildings and services will be able to be mitigated by including appropriate measures in the detailed design for the works.

(g) Provided the recommendations made in the following Section 5.2 are adopted by SGA, it is my opinion that the issues raised in the submissions should be able to be addressed satisfactorily.

5.2 Recommendations

(a) It is recommended that SGA provide a typical section(s) in order to demonstrate how the designation boundary has been set at the BP Oil NZ Limited property at 102 Great South Road (adjacent to the proposed Manuia Road alignment) and whether options are available to minimise the designation extent, thereby mitigating adverse effects on the property (refer paragraph 13 of NoR 1: Submission #17 – BP Oil NZ Limited, which states: "*The Submitter therefore seeks that the encroachment of the fill batter on the southern and western boundaries and berm into the site be reduced or amended to an alternative option, such as retaining, to enable the greatest possible site size to provide a workable service station.*").

(b) It is recommended that SGA confirm either in evidence or at the hearing that:

(i) their Multi - Criteria Assessment (MCA) for Walters Road is applicable to the Manuia Road alignment, given the more favourable ground conditions at the latter site (see conclusion (d) above), which are likely to change the score for the Natural Hazards criterion; and

(ii) the overall score for the Manuia Road alignment is still more favourable for the Bridge option than for the Underpass option.

(c) Although s176A (3) of the RMA requires that the Outline Plan for the proposed works must show, amongst other things, "any other matters to avoid, remedy, or mitigate any adverse effects on the environment.", it is recommended that consideration be given to including a condition in the NoR condition set that specifically requires potential adverse geotechnical effects to be addressed as part of the detailed design that will be undertaken in support of the Regional Consent application for the proposed TLC works.

Suggested condition wording:

Geotechnical Hazards

"Potential adverse geotechnical effects on neighbouring properties shall be addressed as part of the detailed design for the Outline Plan (or Plans) for the proposed TLC works. The Outline Plan(s) shall show design measures to avoid, remedy, or mitigate any adverse geotechnical effects on the environment. Compliance with this condition shall be demonstrated in the Outline Plan(s)."

Technical Memorandum for Notices of Requirement (NoRs)
Takaanini Level Crossings Project

To: Joy LaNauze, Senior Policy Planner, Planning Central/South

From: Rob Pryor, Consultant Landscape Architect, LA4 Landscape Architects

LA4

1. APPLICATION DETAILS

Applicant's name: Auckland Transport and Waka Kotahi NZ Transport Agency (**Applicants**)

2. INTRODUCTION

Qualifications and Relevant Experience

2.1. My full name is Robert James Pryor. I am a registered landscape architect and a Director of LA4 Landscape Architects (**LA4**), a position I have held since 1996. I hold a Bachelor of Science degree in Psychology from Otago University (1980) and a post-graduate Diploma of Landscape Architecture from Lincoln University (1984). I am a registered member of Tuia Pito Ora, New Zealand Institute of Landscape Architects (**NZILA**), a member of the Resource Management Law Association (**RMLA**) and member of the Urban Design Forum (**UDF**).

2.2. I have over 36 years' experience undertaking landscape assessments for clients in both the public and private sectors on a wide variety of major projects within a range of landscape settings. I specialise in the preparation of landscape and visual effects assessments and have undertaken numerous assessments. I have been involved in an extensive range of local authority, public and private sector work. As landscape architect for the Wellington City Council, I was responsible for coordinating, designing, and overseeing the implementation of the city's landscape and urban development projects. Since becoming a Director of LA4, I have specialised in landscape assessment and landscape evaluation.

2.3. Prior to becoming a director of LA4, I worked for the firm for three years as a Landscape Architect (1993-1996). Prior to that, I was a Director of Bannatyne Pryor Associates in Wellington (1989-1993) and Landscape Architect for Wellington City Council (1984-1989).

2.4. I have undertaken technical reviews for a number of NoR and Resource Consent applications including:

i) South Frequent Transit Network (**SFTN**)

ii) Eastern Busway EB3 Commercial and EB4 Link Road

iii) Airport to Botany Bus Rapid Transit NoRs

iv) Eastern Busway Stage EB2 and EB3R Resource Consents

v) Eastern Busway Stage EB2 NoRs

vi) AMETI Stages 1, 2, 2A

vii) Hamilton Southern Links NoRs; and

viii) Hamilton Southern Interchange NoR.

2.5. A site visit of the Project areas and investigations of the wider Takaanini environs was undertaken on 27 April 2023. This Technical Memorandum is my expert technical review of the Takaanini Level Crossings NoRs and submissions relevant to my area of expertise.

Code of Conduct

2.6. I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 and have complied with it in preparing this evidence and agree to comply with it when giving any oral evidence to the Hearing. Other than where I state that I am relying on the advice of another person, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

2.7. I have qualified my evidence where I consider that any part of it may be incomplete or inaccurate, and identified any information or knowledge gaps, or uncertainties in any scientific information or mathematical models and analyses that I am aware of, and their potential implications. I have stated in my evidence where my opinion is not firm or concluded because of insufficient research or data or for any other reason and have provided an assessment of my level of confidence, and the likelihood of any outcomes specified, in my conclusion.

Notices of Requirement

2.8. The Applicant as a requiring authority has served Auckland Council with two Notices of Requirement (NoRs) for the provision of upgrades and improvements of existing roads and the introduction of a new road within an existing urban environment (the **Project**).

2.9. I have reviewed the Applicant's NoRs, and the relevant supporting information with reference to the requirements of relevant provisions in the Auckland Unitary Plan (Operative in Part) (**AUP-OP**) and overarching policy set out the National Policy Statement: Urban Development 2020 (**NPS:UD**), to assist the preparation of the Council's reporting planners' reports under s42A of the RMA.

2.10. More specifically, my technical memorandum assesses landscape character and visual amenity considerations and the associated effects on amenity associated with the NoRs, and covers the following matters:

i) Summary of the Project (Section 3)

ii) Summary of the key landscape issues (Section 4)

iii) Assessment of landscape and visual effects (Section 5)

iv) Proposed mitigation measures (Section 6)

v) Comment on submissions relevant to landscape and visual amenity considerations (Section 7)

vi) Comment on SGA proposed conditions (Section 8); and

vii) Recommendations (Section 9).

2.11. In preparing this technical memorandum, I have reviewed the following documents relevant to the NoR application:

i) Takaanini Level Crossings – NoR 1 Form 18

ii) Takaanini Level Crossings – NoR 2 Form 18

iii) TLC – Updated AEE – Updated for s92 – 09/11/23

iv) TLC – AEE - Appendix A – Assessment of Alternatives – Final for lodgement, 13/10/2023

v) TLC – General Arrangement Plan – NoR 1 – Final for lodgement

vi) TLC – General Arrangement Plan – NoR 2 – Final for lodgement

vii) TLC – Assessment of Landscape and Visual Effects – Updated for s92, 09/11/2023

viii) TLC – Assessment of Landscape and Visual Effects – Appendix A – Part 1

ix) TLC – Assessment of Landscape and Visual Effects – Appendix A – Part 2

x) TLC – Assessment of Landscape and Visual Effects – Appendix B – Part 1

xi) TLC – Assessment of Landscape and Visual Effects – Appendix B – Part 2

xii) TLC – Assessment of Landscape, Natural Character and Visual Effects – Final for Lodgement 13/10/2023

xiii) TLC – Assessment of Arboricultural Effects – Final for lodgement, 13/10/2023

xiv) TLC – Assessment of Landscape, Natural Character and Visual Effects – Appendix A

xv) Section 92 further information response, 10/11/2023 (**Section 92 Response**) including its Attachments; and

xvi) Submissions received on the NoRs application.

3. SUMMARY OF THE PROJECT

3.1. The Takaanini Level Crossings Project (**TLC**) is one of the transport works packages proposed for South Auckland as part of the Te Tupu Ngātahi Supporting Growth (**Te Tupu Ngātahi**) programme which is a collaboration between Auckland Transport and Waka Kotahi NZ Transport Agency (**Waka Kotahi**).

3.2. Alongside the South Frequent Transport Network (**South FTN**) Project, the TLC Project is one of two large-scale, long-term transport interventions proposed for the area of South Auckland between Manukau and Drury. These Projects in turn are part of a wider planned multi-modal transport intended to support growth and enable mode shift in South Auckland.

3.3. The proposed TLC Project comprises two Notices of Requirements (**NoR**) with five individual Project areas, for the provision of upgrades and improvements of existing roads and the introduction of a new road within an existing urban environment.

3.4. The Project areas where the designations are proposed form part of an existing urban environment which is anticipated to intensify through the Auckland Unitary Plan: Operative in Part (**AUP-OP**) and proposed Plan Change 78 to the Auckland Unitary Plan: Operative in Part (**PC78**) provisions. This is anticipated to change the urban character in the area to enable greater density and height of future built form.

3.5. The Project description within the Assessment of Effects on the Environment (**AEE**) provides a clear outline of the details and features proposed within each of the respective Project areas, related to each NoR. A summary of the Project is outlined below.

NoR Reference	Project area	Description	Requiring Authority
Takaanini Level Crossings Project NoR 1	**Spartan Road**	Closure of the existing level crossing, construction of a new bridge with walking and cycling facilities across the NIMT and associated works.	Auckland Transport
	Manuia Road	Construction of a new bridge with general traffic lanes and walking and cycling facilities across the NIMT and associated works.	
	Manuroa Road	Closure of the existing level crossing, construction of a new bridge with walking and cycling facilities across the NIMT and associated works.	
	Taka Street	Closure of the existing level crossing, construction of a new bridge with general traffic lanes and walking and cycling facilities across the NIMT and associated works.	
Takaanini Level Crossings Project NoR 2	**Walters Road**	Closure of the existing level crossing, construction of a new bridge with general traffic lanes and walking and cycling facilities across the NIMT and associated works.	Auckland Transport

Figure 1: TLC – Summary Table

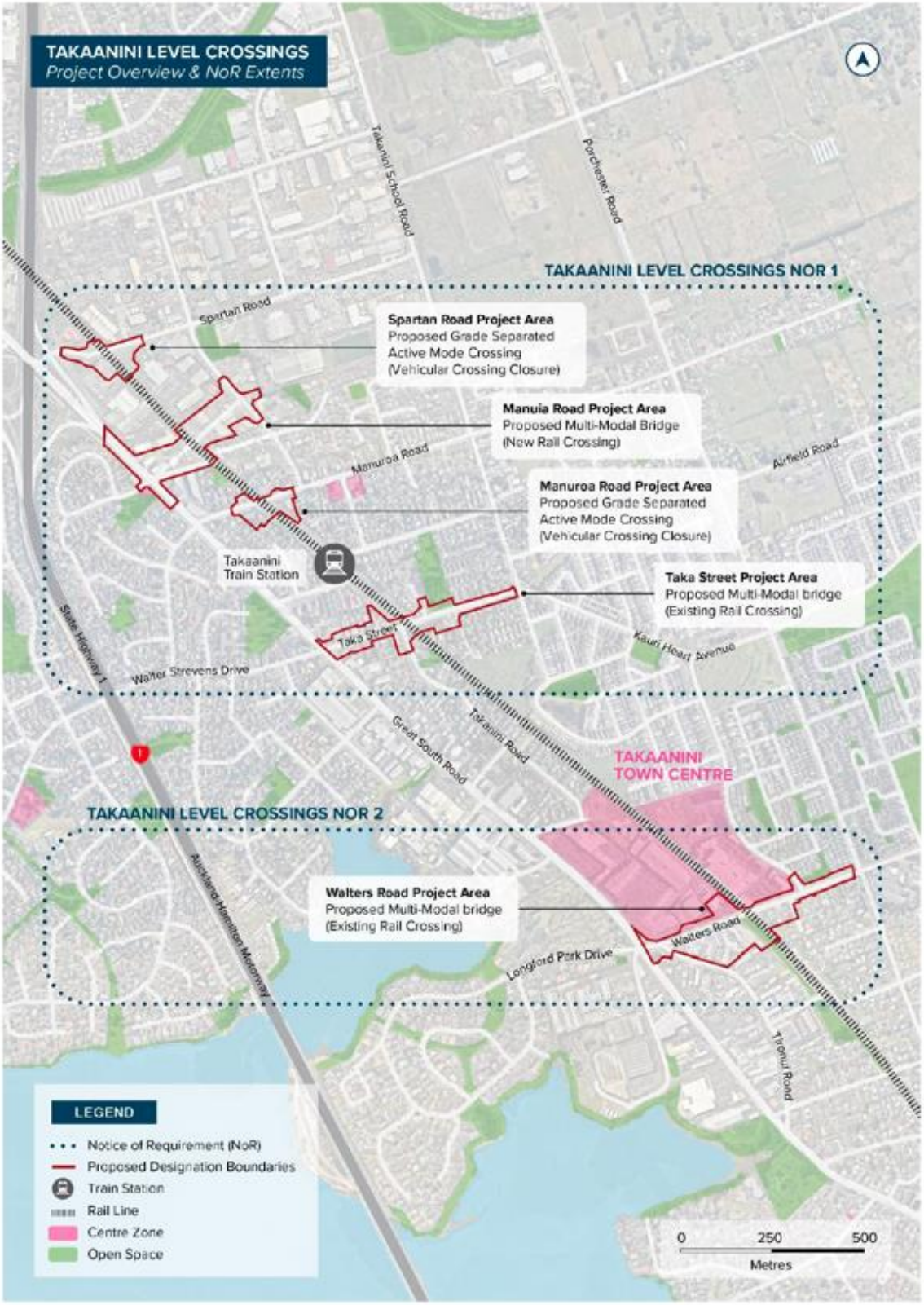

Figure 2: TLC Proposed Network

4. SUMMARY OF KEY LANDSCAPE ISSUES

4.1. There are a number of potential key landscape character and visual amenity issues in relation to the Project as outlined below. These are addressed under Section 5.

Notice of Requirement	**Key issues** **LC** – landscape character, **VA** – visual amenity
NoR 1	**Construction Phase** i) Bridge, abutment, retaining wall and embankment construction (LC, VA) ii) Building removal – residential and commercial (VA) iii) Scheduled tree removal (LC, VA) iv) Tree removal (LC, VA) v) Effects on public open spaces / reserves (access restriction, skate park removal and vegetation removal) - Takaanini Reserve (LC, VA) vi) Visual amenity from adjoining properties (VA)
	Operational Phase vii) Visual amenity of bridges and associated structures from adjoining residential properties, childcare, healthcare and commercial businesses (VA)
NoR 2	**Construction Phase** i) Bridge, abutment, retaining wall and embankment construction (LC, VA) ii) Building removal – residential and commercial (VA) iii) Tree removal (LC, VA)
	Operational Phase iv) Visual amenity of bridges and associated structures from adjoining residential properties, childcare and commercial businesses (VA)

5. ASSESSMENT OF LANDSCAPE AND VISUAL EFFECTS

Applicant Assessment of Landscape and Visual Effects – Project-wide Assessment

Positive effects

5.1. The applicant's assessment states that there are a number of positive effects for the overall Project (Section 5.1):

The Project includes the provision of new transport infrastructure within the Takaanini urban environment. This new infrastructure has the potential to provide positive effects through the design which can include landscape planting, safety improvements and a design which seeks to mitigate and integrate these elements into the surrounding urban environment.

Adverse construction effects

5.2. The LVA states that there are a number of adverse construction effects for the overall Project which will result in temporary effects on landscape character and visual amenity. The LVA notes that the construction phase for the entire TLC Project takes place within a modified urban environment, largely characterised by mixed use development and transport infrastructure, which is anticipating urban intensification through the AUP and PC78 planning provisions.

5.3. Construction effects on landscape character and visual amenity include matters such as:

Landscape Character

- Effects on landscape character (including streetscape character) related to matters such as:
  - Integration of development patterns (e.g., urban form, topography)
  - Streetscape interface
  - Vegetation clearance; and
  - Formation of new infrastructure / structures.

Visual Amenity

- Views from private residences, commercial properties and businesses proximate to the alignment, and
- Any views from public locations.

Spartan Road Project Area (NoR 1)

5.4. The Spartan Road Project area is located within industrial zoned land spanning either side of the road and across the NIMT rail corridor. The proposed works include closure of the existing level crossing and replacement with a new active modes pedestrian bridge across the NIMT.

Construction effects on landscape character

5.5. The LVA states that the Project will change the environment from a working industrial urban landscape with road and rail corridors to an active construction site. The construction works will introduce machinery and materials and activity (demolition, earthworks and limited vegetation removal) into this environment. It will disrupt access and driveways for a number of local businesses along Spartan Road. Vegetation removal is limited.

5.6. The LVA notes that this part of Takaanini has low landscape values and amenity overall attributed to its industrial character and any adverse effects on landscape character resulting from the construction phase will be temporary and are assessed to be **low**.

Construction effects on visual amenity

5.7. Views of the Project area are described as being limited and largely restricted to the localised context of Spartan Road, the adjacent industrial properties and buildings, from SH1 to the west, and from users of the railway line, and any adverse effects on visual amenity resulting from the construction phase are assessed as **low**.

Operational effects on landscape character

5.8. In relation to landscape character, the LVA states that the area will return to an industrial character post construction and as such, will form a complementary element in this landscape with **very low** adverse effects on landscape character with the mitigation measures implemented.

Operational effects on visual amenity

5.9. Any adverse effects on visual amenity are assessed to be **very low**. The designation and the anticipated infrastructure elements will not be seen out of context and will integrate into and be a coherent part of the surrounding industrial urban environment, with the recommended mitigation measures.

Manuia Road Project Area (NoR 1)

5.10. The Manuia Road Project area is also located within industrial zoned land, however it is adjacent to residential zoned land (to the south), on both the western and eastern side of the NIMT rail corridor. The proposed works include construction of a new grade-separated road crossing bridge across the NIMT. The new bridge will accommodate one vehicle lane in each direction and active mode facilities.

Construction effects on landscape character

5.11. The LVA states that while there are commercial and residential land uses in the immediate area, and the open space adjacent to the rail line, this part of Takaanini has relatively low existing landscape and amenity values. It notes that over time during the construction phase, new landforms and physical attributes will be created for the batter slopes and levels necessary for the bridge. This will require earthworks and construction activities for the bridge. Any adverse effects on landscape character resulting from the construction phase will be temporary and are assessed as being **moderate.**

Construction effects on visual amenity

5.12. The LVA considers that this part of Takaanini has poor visual amenity due to the utilitarian use and industrial character, and in part the residential land use in this urban setting. Views of the Project area are limited and largely restricted to the immediate and localised context of the site due to existing buildings and vegetation. Those most affected are the residential properties accessed from Portrush Lane which back onto the proposed bridge batter slope. The LVA states that there will be greater adverse effects on localised areas and some parties will be more affected than others (such as those on Portrush Lane). Overall, adverse effects on visual amenity are assessed to be **moderate**.

Operational effects on landscape character

5.13. In relation to landscape character, the LVA states that the area will remain industrial to the north, and residential to the south (including intensification anticipated under PC78 up zoning). Through implementation of the ULDMP, the adverse effects are assessed to be **low**.

Operational effects on visual amenity

5.14. The LVA considers that the Project will result in a considerable change to this urban landscape through the scale of the bridge and associated infrastructure. It notes however, that It could integrate with the future urban form anticipated from the urban uplift and development in the area and through measures included in the ULDMP. The greatest adverse effects will be from the residential properties in Portrush Lane and overall the adverse effects are considered to be **low-moderate.**

Manuroa Road Project Area (NoR 1)

5.15. The Manuroa Road Project area is located within residential zoned land spanning on the northern and southern sides of the road and east-west across the NIMT rail corridor. The proposed works include closure of the existing level crossing and replacement with a new active modes pedestrian bridge across the NIMT.

Construction effects on landscape character

5.16. The LVA notes that a number of properties will be directly affected by the construction works, including part of the existing childcare centre, and will change from the residential zoned land use to an active construction site (which spans across the rail line). The removal of the scheduled trees within 15 Manuroa Road will result in adverse effects. Potential effects on landscape character are assessed to be **low**.

Construction effects on visual amenity

5.17. The LVA considers that Views of the Project area are limited and largely restricted to the localised context of transient viewers travelling along Manuroa Road, Oakleigh Avenue and the rail corridor, and 'static' views from adjacent residential properties and buildings. The LVA takes into account the limited visual catchment and context of the viewing audience (acknowledging there are residential properties located adjacent to the designation boundary), and assesses that adverse effects on visual amenity to be **low – moderate**.

Operational effects on landscape character

5.18. In relation to landscape character, the LVA considers that during the operational phase, the landscape character of the area is anticipated to change considerably, enabled by the AUP-OP and PC78 provisions, up zoning residential Mixed Housing Urban zone to THAB, resulting in urban intensification, including buildings of greater density and height. The LVA concludes that the Project will introduce complementary elements into this landscape and any adverse effects on landscape character are anticipated to be **low**, with the mitigation measures implemented.

Operational effects on visual amenity

5.19. Adverse effects on visual amenity are also assessed to be **low**. The LVA states that there will be positive effects resulting from the upgrade of the streetscape environment and reduction of vehicle movements and the Project will integrate into the surrounding urban environment through the recommended mitigation measures.

Taka Street Project Area (NoR 1)

5.20. The Taka Street project area is located within residential zoned land on both the western and eastern side of the NIMT rail corridor, extending from Great South Road (west) through to Takaanini School Road (east). It also abuts a small area of industrial land adjacent to Great South Road. The proposed works include closure of the existing level crossing and replacement

with a new grade-separated road crossing bridge across the NIMT. The new bridge will accommodate one vehicle lane in each direction and active mode facilities.

Construction effects on landscape character

5.21. The construction of the Project will impact on a large number of properties with 86 being partially affected, and 16 properties being fully acquired. A number of existing houses and businesses will be removed, with access to others affected by the works including the Aged Care, and early child education facilities. The designation and construction works will also result in the closure and disconnection of Takaanini Road with Taka Street. A number of established trees and the skateboard park will be removed from Takaanini Reserve. Overall, adverse effects on landscape character resulting from the construction phase will be temporary in nature and assessed as being **moderate**.

Construction effects on visual amenity

5.22. The LVA considers that views of the Project area are limited to the immediate and localised context. Views are largely restricted to Taka Street, Great South Road, Takaanini Road, Takaanini School Road, the adjacent residential and industrial properties and buildings, from users of Takaanini Reserve and along the rail line. The adverse effects on visual amenity during the construction phase are assessed to be **moderate-high**.

Operational effects on landscape character

5.23. In relation to landscape character, the LVA considers that during the operational phase, the landscape character of the area is anticipated to change considerably, enabled by the AUP-OP and PC78 provisions, resulting in urban intensification. The proposed bridge will introduce a large structure into the predominantly residential urban environment, however the LVA considers that the scale of the bridge will integrate with the scale of development anticipated by the PC78 provisions. The LVA concludes that potential effects on landscape character during the operational phase are assessed to be **low – moderate**.

Operational effects on visual amenity

5.24. Adverse effects on visual amenity are also assessed to be **low – moderate**. The LVA considers that while the bridge will be of considerable scale it will be viewed within the context of the emerging urban environment under PC78. The LVA notes that the Project will include mitigation measures with trees and planting to provide visual softening of the proposed bridge and enhancement of the streetscape, particularly from those properties adjacent to the designation boundary.

Walters Road Project Area (NoR 2)

5.25. The Walters Road Project area is located along the road reserve and extends into Business – Town Centre, industrial and residential zoned land extending from Great South Road (west) through to Porchester Road (east).

Construction effects on landscape character

5.26. The construction of the Project will impact on a large number of properties with 47 being partially affected, and 17 properties being fully acquired between Tironui Road, Walters Road and the NIMT corridor. A number of existing houses, businesses and trees will be removed, with access to others affected by the works. Overall, adverse effects on landscape character resulting from the construction phase will be temporary in nature and assessed as being **moderate**.

Construction effects on visual amenity

5.27. Views are assessed as being largely restricted to the localised area which includes a small section of Great South Road, Braeburn Place, Arion Road, Porchester Road and from Walters Road. Views will also be afforded from the residential, commercial and industrial properties and buildings adjacent to the designation, from users of the South Gate shopping strip (west of the NIMT) and the Takaanini Town Centre (east of the NIMT), and from along the rail line. The adverse effects on visual amenity during the construction phase are assessed to be **moderate-high**.

Operational effects on landscape character

5.28. In relation to landscape character, the LVA considers that during the operational phase, the landscape character of this area is also anticipated to change considerably, enabled by the AUP-OP and PC78 provisions. The proposed bridge is assessed as forming an integrated part of this urban landscape. The LVA concludes that potential effects on landscape character during the operational phase are assessed to be **moderate**.

Operational effects on visual amenity

5.29. Adverse effects on visual amenity are also assessed to be **moderate**. The LVA considers that although the proposal will introduce a new bridge element into this setting and will restrict some longer views along Walters Road, it will be viewed in the context of the emerging urban environment. The LVA notes that the Project will include mitigation measures with trees and planting to provide visual softening of the bridge and proposed abutments, and enhancement of the streetscape. Views of the bridge will be afforded from within the Town Centre and car park, however mitigation measures include planting along the edge of the structure which will provide visual softening.

LA4 Assessment of Landscape and Visual Effects

5.30. The Project works are largely contained within a highly modified urban environment influenced by industrial, commercial and residential activities and the surrounding roading network. The works are largely within the existing road corridor which reduces the sensitivity of the environment to change as proposed by the Project.

Tree removal

5.31. The removal of a number of established trees through the construction phase will reduce the landscape amenity of the streetscape environment and open space areas and result in adverse effects on landscape character and visual amenity. Vegetation removal should be minimised as far as practicable and replacement or mitigation planting undertaken following construction. I note that proposed condition 23 requires the preparation of a Tree Management Plan (**TMP**) prior to the start of construction for a stage of work to avoid, remedy or mitigate effects of construction activities on trees identified in Schedule 3. I consider this is an appropriate condition to mitigate the effects of tree removal. Condition 12 (h)(i)(a) and (b) of the ULDMP reference this condition.

Landscape character

5.32. In terms of effects on landscape character, I concur that following construction and implementation of the new roading infrastructure and proposed mitigation measures required through the ULDMP the adverse effects will be low-moderate overall. Upgrading of the

streetscape environment and implementation of street tree plantings will potentially enhance the landscape character of the surrounding environment.

5.33. I consider that the removal of established trees could be mitigated over time through replacement tree planting and measures outlined within the ULDMP and TMP.

5.34. I concur that the extent of the designations is localised, and the works authorised by the respective designations will not be out of place or incongruous with the established urban character of the area.

5.35. The new bridges will introduce considerably larger structures into the urban landscape. I consider that in light of the existing and likely future environment they could be integrated into the landscape setting through design detailing of the bridge structures, retaining walls, and through sensitive landscape treatment of the batter slopes as outlined in the ULDMP proposed conditions 12(g)(iii)(c) and 12(h)(c).

5.36. The LVA further identifies specific measures to avoid, remedy or mitigate the effects of the bridges as follows[1]:

'Design structures to contribute positively to visual amenity for nearby residents who will view any infrastructure elements from close proximity. Consider the form, colour, bulk, textures and finishes to elements to create visual quality and interest. This also includes plant species selection.'

5.37. I concur that these mitigation measures are appropriate and will assist to integrate the bridge structures into the surrounding landscape. I consider that reference to these mitigation measures outlined in 5.4.2 should be included in the ULDMP conditions.

Visual amenity

5.38. I concur that the Project will have a high viewing audience due to its location along an existing road corridor within an established urban environment. Close views will be gained from those travelling along the roads and from the residential and commercial properties and open space areas adjacent to the designation. From the wider area there will only be limited visibility due to the screening effect of buildings, structures and vegetation within the line of sight.

5.39. There will be temporary adverse visual amenity effects during the construction stage, however I consider that these can be mitigated to a degree by measures outlined in the Construction Environmental Management Plan (**CEMP**).

<u>Spartan Road Project Area</u>

5.40. I concur that as the Spartan Road works are located within an industrial landscape with low landscape values and visual amenity that the construction and operational effects on visual amenity will be very low. The works will integrate into the surrounding industrial environment with potential to enhance the area through the proposed mitigation measures (bridge design, tree planting, pedestrian and cycle facilities etc.)

[1] Landscape Effects Assessment, Section 5.4.2

Manuia Road Project Area

5.41. The Manuia Road works straddle both industrial and residential land. I concur that the most affected parties are the adjacent residential properties in Portrush Lane which back onto the proposed bridge batter slope. I consider that the close proximity of the residential audience and the scale and form of the bridge will result in moderate to high adverse visual effects initially reducing to moderate through implementation of the ULDMP (LVA rating assessed as low-moderate). The architectural design and detailing of the bridge and landscape treatment of the planted batters will be critical in minimising the potential adverse effects.

Manuroa Road Project Area

5.42. The Manuroa Road works are located within an urban residential context with two notable trees. While predominantly low rise I note that the underlying AUP zoning is anticipated to up zone and change to THAB through the PC78. The works are also located within 225m of the Takaanini Rail Station (allowing six storeys within the walkable catchment through the NPS-UD and MDRS provisions). This will result in greater density and scale than currently existing.

5.43. I consider that as the proposed bridge is for walking and cycling only (and therefore of smaller scale, form and construction) that the adverse visual amenity effects will be low. Again here, the architectural design and detailing of the bridge will be important in minimising the potential adverse effects. The concept design indicates that the scheduled trees could be avoided and this should be a priority.

Taka Street Project Area

5.44. The Taka Street works are located within an urban residential context, including an Early Learning Centre and Aged Care Centre. Takaanini Reserve and associated tree plantings are within the works area. Again here, while predominantly low rise, the underlying AUP zoning is anticipated to up zone and change to THAB through the PC78 resulting in greater density and scale than currently existing.

5.45. I consider that the close proximity of the residential audience and the scale and form of the bridge will result in **moderate to high** adverse visual effects initially reducing to moderate through implementation of the ULDMP (LVA rating assessed as low-moderate). The architectural design and detailing of the bridge and treatment of the embankments will be critical in minimising the potential adverse effects.

Walters Road Project Area

5.46. The Walters Road works extend into Business – Town Centre, industrial and residential zoned land. While predominantly low rise the underlying AUP zoning is anticipated to up zone and change to THAB through the PC78 which will result in greater density and scale than currently existing.

5.47. Again, here I consider that the close proximity of the residential and commercial audiences, the removal of trees within the Takaanini Reserve and the scale and form of the bridge will result in **high** adverse visual effects initially reducing to **moderate-high** through the implementation of the ULDMP (LVA rating assessed as moderate). The architectural design and detailing of the bridge and treatment of the embankments will be critical in minimising the potential adverse effects.

5.48. I consider that overall, the adverse effects on visual amenity across the Project-wide area will be low to moderate following construction and implementation of the proposed mitigation measures with the exception of the Taka Road and Walters Road Projects where the scale and form of the proposed bridges will result in moderate to high adverse visual effects which need to be carefully addressed.

5.49. The Project works are in existing road corridors within an established urban environment and will therefore not appear out of place. The works include upgrades to the existing road corridors and will integrate well into the surrounding landscape context as evidenced by similar roading projects throughout Auckland. Street tree plantings implemented along the road corridors will enhance the streetscape character and amenity and contribute towards Auckland's urban ngahere (forest) objectives.

Conclusions

5.50. In my opinion the LVA provided in the lodged NoR has identified and assessed all of the relevant and potential landscape character and visual amenity effects of the Project.

5.51. In the s92 Request for Further Information, I noted that there were originally two landscape assessments lodged prepared by two different authors. Attachment A of the s92 response package clarifies that the Isthmus Group assessment (previously referred to as the 'Supplementary Assessment') is now the primary assessment (Assessment of Landscape and Visual Effects) to which this technical review has referred to.

5.52. I also requested that further commentary should be provided on the visual amenity effects of the Project on the residential audience in cognisance that the 'likely future environment' could take some time to be fully intensified. The SGA response was that as the Project will not be implemented for approximately 10-15 years, considering the environment as it exists today is not necessarily a true reflection of the environment in which the Project will be constructed and will operate. The SGA further considers that the Plan-enabled environment provides a consistent approach to assessment and recognition of the potential future in which the Project will be located within.

5.53. In light of this I generally agree with the likely future environment described in the LVA, but consider this is a planning matter that should be addressed further at the hearing. Significant growth and change is planned for this area in the future and I consider that the proposed ULDMP condition, for a required management plan will achieve the landscape character and visual amenity effects outcomes in consultation with affected parties.

5.54. Subject to the recommendations in Section 9 below, I consider that the recommendations contained within the SGA reports and AEE, and the proposed conditions will assist to avoid, remedy or mitigate the adverse landscape character and visual amenity effects of the works enabled by the NoRs.

6. MITIGATION

6.1. The LVA outlines a number of proposed mitigation measures which are to be implemented through an Urban and Landscape Design Management Plan (**ULDMP**).

Urban and Landscape Design Management Plan

6.2. Proposed condition 12, outlines the requirement for a comprehensive ULDMP is to be prepared prior to the start of construction for a stage of the work. The objective of the ULDMP is to:

i) Enable integration of the Project's permanent works into the surrounding landscape and urban context; and

ii) Ensure that the Project manages potential adverse landscape and visual effects as far as practicable and contributes to a quality urban environment.

6.3. I consider that the proposed ULDMP condition, for a required management plan will achieve the landscape character and visual amenity effects outcomes. I do however have issues with the timing of the preparation of the ULDMP. Proposed condition (12a) states:

'A ULDMP shall be prepared prior to the Start of Construction for a Stage of Work.'

Condition 12(d) states:

'Key stakeholders identified through Condition 9(b)(i) shall be invited to participate in the development of the ULDMP at least six (6) months prior to the start of detailed design for a Stage of Work.'

6.4. I consider that condition 12(a) needs to be more prescriptive in terms of timing as it is open ended at the moment referring to prior to the start of construction (and well beyond preparation of the detailed design). The ULDMP needs to be developed well in advance of the detailed design to meet the objectives of condition 12(b)(i).

6.5. In my opinion the condition should be consistent with condition 12(d) and read:

'A ULDMP shall be prepared ~~prior to the Start of Construction for a Stage of Work~~ at least six (6) months prior to the start of detailed design for a Stage of Work.'

Mana Whenua Engagement

6.6. Engagement with Mana Whenua is a key component of the Project including input into the ULDMP(s). Mana Whenua are to be invited to participate in the development of the ULDMP(s) to provide input into relevant cultural landscape and design matters including how desired outcomes for management of potential effects on cultural sites, landscapes and values identified and discussed in accordance with the Cultural Advisory Report.

6.7. I consider that engagement with Mana Whenua is a key component to the Project by providing opportunities to enhance cultural values and sites by incorporating cultural recognition.

Construction Specific Mitigation Measures

6.8. Mitigation measures to be implemented during construction are outlined under Section 5.4.1. The primary means of mitigating construction effects is through a Construction Environmental Management Plan (**CEMP**). The LVA outlines a number of additional mitigation measures including limiting works areas, minimising earthworks, minimising tree and vegetation removal, installing construction hoardings with interpretive material regarding the Project, and minimising construction lighting.

Tree Management Plan

6.9. Proposed condition 23, outlines the requirement for a Tree Management Plan (TMP) to be prepared prior to the start of construction for a stage of the work. Where trees are unavoidably impacted by the Project and require removal, mitigation measures commensurate with the anticipated effects on the environment must be implemented, with the aim of avoiding, remedying, and mitigating the adverse effects arising from the loss of the trees and associated benefits.

6.10. I consider that the above mitigation measures will avoid, remedy or mitigate potential adverse landscape character and visual amenity effects of the works.

7. SUBMISSIONS RELEVANT TO LANDSCAPE AND VISUAL AMENITY CONSIDERATIONS

7.1. I have reviewed the landscape character and visual amenity submissions in relation to the NoRs. The following submissions are of relevance to the LVA.

Landscape Issues	Number of submissions
NoR 1	
Interface of the Project with the surrounding area	**6** (11, 37, 38, 39, 40)
Shortcomings in the assessment of alternatives (overbridge vs underpass)	**6** (4, 5, 37, 38, 39, 40)
Adverse landscape character and visual amenity effects	**7** (4, 5, 11, 37, 38, 39, 40)
Impact on existing site infrastructure	**2** (40, 42)
NoR 2	
Interface of the Project with the surrounding area	**4** (17, 18, 19, 20)
Adverse landscape character and visual amenity effects	**7** (4, 9, 13, 15, 17, 19, 20)
Shortcomings in the assessment of alternatives, (overbridge vs underpass)	**4** (17, 18, 19, 20)

Interface of the Project with the surrounding area

7.2. A number of submitters are concerned that the Project has not adequately demonstrated that an appropriate interface will be provided to their properties. Oceania Healthcare (NoR1_11) considers that the construction works will likely entirely screen the Takaanini Aged Care healthcare facility from the Taka Street frontage making the facility illegible and difficult to find for visitors.

7.3. Takaanini Village Limited and Tonua Properties (NoR 1_37, NoR 2_17) consider that the Project has not adequately demonstrated that an appropriate interface will be provided to the Takanini Town Centre.

7.4. Sunlight Holdings and South Auckland Marine (NoR 1_38, NoR 2_18) and Mead Trusts Holdings Ltd and Carters Buildings Supplies Ltd (NoR 1_39, NoR 2_19) are concerned at the adverse effects on the interface with businesses along Walters Road including landscape effects and urban design considerations. They also consider that the Project has not adequately demonstrated that an appropriate interface will be provided to the site. Furthermore, the bridge will be visually prominent and dominant at Walters Road to tenants and customers.

7.5. Mitre 10 Mega Limited (NoR 1_40, NoR 2_20) are concerned at the adverse effects on the interface with businesses along Walters Road including landscape effects and urban design considerations. They consider that the Project has not adequately demonstrated that an appropriate interface will be provided to the site.

7.6. Takanini Childcare Investments (NoR 2_15) are concerned at the adverse visual amenity and dominance and shading effects of large concrete overbridge structures on the residential dwellings and public street and pedestrian spaces.

7.7. Proposed condition 12, outlines the requirement for a comprehensive ULDMP to be prepared. The objective of the ULDMP is to enable integration of the Project's permanent works into the surrounding landscape and urban context and ensure that the Project manages potential adverse landscape and visual effects as far as practicable and contributes to a quality urban environment.

7.8. Condition 3 – Land Use Integration Process, sets out a clear process for land use integration. I support this condition, which will enable landowners to get involved, particularly in relation to interfaces and edge conditions. I also consider that condition 12 should be amended to ensure an appropriate interface with adjacent land uses as follows:

12 (g) The ULDMP(s) shall include:

(iii) landscape and urban design details – that cover the following:

…

i. <u>interfaces – how the interface and edge treatment with adjoining properties has been treated.</u>

7.9. In my opinion, compliance with these management plan documents will assist with the ongoing avoidance, remediation and mitigation of adverse landscape and visual effects and ensure an integrated and positive outcome.

Adverse landscape character and visual amenity effects

7.10. A number of submitters have expressed concern at the landscape character and visual amenity effects on their residential and business properties, resulting from the bridge structures. The Takanini Business Association (NoR 1_4) support the proposed conditions regarding the preparation of the Urban and Landscape Design Management Plan. K Dasgupta (NoR 2_4) is concerned at the visual landscape changes.

7.11. Brian Hogan (NoR 1_5, NoR 2_9) consider that the over bridges for these crossings will be a blight on the visual aspects of the Takanini community. Oceania Healthcare (NoR 1_11)

(Takaanini Aged Care) consider that the bridge structure will adversely impact on the legibility of the site/facility and also the views from the facility over Taka Street. From the healthcare facility, staff and patients will effectively have an outlook directly into the structure as opposed to the existing situation that is to mature trees and over the street. They consider that this outlook to the structure will be a significant adverse effect on the residential amenity appreciated from the facility.

7.12. Oceania Healthcare (NoR 1_11), express concern that from the healthcare facility, staff and patients will effectively have an outlook directly into the structure as opposed to the existing situation that is to mature trees and over the street. This outlook to the structure is considered to be a significant adverse effect on the residential amenity appreciated from the facility.

7.13. Takaanini Village Limited and Tonua Properties (NoR 1_37, NoR 2_17), Sunlight Holdings and South Auckland Marine (NoR 1_38, NoR 2_8), Mead Trust Holdings Limited and Carters Building Supplies Limited (NoR 1_39, NoR 2_19) consider that a large number of residential and commercial properties including the Takaanini Town Centre, will be subjected to significant adverse landscape and visual effects, both during the construction phase and from the cumulative effects resulting from five large structures in close proximity to each other within the Takaanini landscape. Sunlight Holdings and South Auckland Marine (NoR 1_38, NoR 2_18) and Mead Trusts Holdings Ltd and Carters Buildings Supplies Ltd (NoR 1_39, NoR 2_9) are concerned that the bridge will be visually prominent and dominant at Walters Road to tenants and customers.

7.14. J and S Bhaduri (NoR 2_13) are concerned at the residential amenity effects for residents in Arion Road. Takanini Childcare Investments (NoR 2_15) are concerned at the adverse visual amenity and dominance and shading effects of large concrete overbridge structures on the residential dwellings and public street and pedestrian spaces.

7.15. I concur with the submitters' concerns and consider that as affected stakeholders they participate in the detailed design as part of the ULDMP, in order to achieve appropriate landscape character and visual amenity effects outcomes to avoid, remedy or mitigate potential adverse landscape character and visual amenity effects of the works on their properties. Condition 12(d) of the ULDMP states:

'Key stakeholders identified through Condition 9(b)(i) shall be invited to participate in the development of the ULDMP at least six (6) months prior to the start of detailed design for a Stage of Work.

7.16. As outlined above, condition 12, outlines the requirement for a comprehensive ULDMP to be prepared and condition 3 sets out a clear process for land use integration. I support these conditions, which will enable landowners to get involved, particularly in relation to potential adverse landscape and visual effects and interfaces and edge conditions.

7.17. In my opinion, compliance with these management plan documents will assist with the ongoing avoidance, remediation and mitigation of adverse landscape and visual effects and ensure an integrated and positive outcome.

Shortcomings in the assessment of alternatives

7.18. A number of submitters are concerned at the shortcomings in the assessment of alternatives and that the option of underpasses should have been given greater consideration. Takaanini Business Association (NoR 1_4) is of the view that the assessment of alternatives is deficient.

Brian Hogan (NoR 1_5, NoR 2_9) considers that AT have not given fair regard to the option of under passes which take up far less land, are cost beneficial, less disruptive in both construction and visually. Takaanini Village Limited and Tonea Properties (NoR 1_37, NoR 2_7), Sunlight Holdings and South Auckland Marine (NoR 1_38, NoR 2_18), Mead Trusts Holdings Ltd and Carters Buildings Supplies Ltd (NoR 1_39, NoR 2 – 19) and Mitre 10 Mega Limited (NoR 1_40, NoR 2_20) consider that there are significant shortcomings in the assessment of alternatives, with other available methods resulting in a lesser extent of adverse environmental effects on private land. The Submitters consider that the assessment of these options explored has not been proportional to the potential effects of the options being considered.

7.19. I understand from the Assessment of Alternatives that the key constraints identified in the assessments for the Walters Road underpass option relating to ground conditions, construction complexity, lack of resilience, and urban design and safety concerns for the community were also considered relevant at the Taka Street and Manuia Road project areas. Accordingly, bridges were recommended as the preferred physical form of grade separation in those locations. I consider that this is more of a planning and engineering matter and I defer to those specialists.

Impact on existing site infrastructure

7.20. Z Energy (NoR 1_42, NoR 2_22) are concerned that the proposed designation boundary crosses into the Z sites and encompasses landscaping and existing front yard signage (poster boards, directional signage, prime sign). They consider that low lying frontage landscaping is an important element in service stations (and required under the AUP) as it provides a safety buffer, ensures the site is visible for motorists, and contributes to amenity values. Site signage is also located within the landscaped frontage, as there is limited space elsewhere in the site and noting that pricing must be clearly visible to motorists in accordance with industry requirements.

7.21. They request that the sites' existing landscaping, signage, hazardous substance storage / transfer / use layout, and infrastructure (including stormwater) will not be affected by the NoR.

7.22. Mitre 10 Mega (NoR 1_40) request that conditions should be imposed to ensure the minimum practicable impact on the site especially in terms of access, visual and landscape amenity, and impact on existing services and operations.

7.23. Condition 3 – Land Use Integration Process, sets out a clear process for land use integration. I support this condition, which will enable landowners to get involved, particularly in relation to edge conditions, front yard landscaping, and crossings. I also consider that condition 12 should be amended to ensure an appropriate interface with adjacent land uses as follows:

12 (g) The ULDMP(s) shall include:

(iii) landscape and urban design details – that cover the following:

…

i. <u>interfaces – how the interface and edge treatment with adjoining properties has been treated.</u>

8. SGA PROPOSED CONDITIONS

8.1. In regard to landscape character and visual amenity matters, the SGA's proposed conditions outline the requirement for a comprehensive ULDMP to be prepared prior to the start of construction for a stage of the work. The objective of the ULDMP is to (12(b)):

i) Enable integration of the Project's permanent works into the surrounding landscape and urban context; and

ii) Ensure that the Project manages potential adverse landscape and visual effects as far as practicable and contributes to a quality urban environment.

8.2. I consider that the proposed ULDMP condition, for a required management plan will achieve the appropriate landscape character and visual amenity effects outcomes. I do however have issues with the timing of the preparation of the ULDMP. Proposed condition (12a) states:

'A ULDMP shall be prepared prior to the Start of Construction for a Stage of Work.'

8.3. In my opinion the ULDMP needs to be prepared well in advance of the detailed design stage of the Project to meet the objective of condition 12(b)(i) – *'Enable integration of the Project's permanent works into the surrounding landscape and urban context'.* The ULDMP also needs to be developed well in advance of the detailed design stage to meet the objective of Condition 12(d) which states:

'Key stakeholders identified through Condition 9(b)(i) shall be invited to participate in the development of the ULDMP at least six (6) months prior to the start of detailed design for a Stage of Work.'

8.4. In my opinion the condition should be worded for the ULDMP to be prepared early in the design stage of the Project and to be consistent with condition 12(d) and read:

'A ULDMP shall be prepared ~~prior to the Start of Construction for a Stage of Work~~ at least six (6) months prior to the start of detailed design for a Stage of Work.'

8.5. In order to address the concerns of a number of submitters regarding the interface of the Project with their properties, I consider that an additional clause should be added to Condition 12(g)(iii) to ensure an appropriate interface with adjacent land uses as follows:

12 (g) The ULDMP(s) shall include:

(iii) landscape and urban design details – that cover the following:

…

i. interfaces – how the interface and edge treatment with adjoining properties has been treated.

8.6. In my opinion, compliance with these management plan documents will assist with the ongoing avoidance, remediation and mitigation of adverse landscape and visual effects and ensure an integrated and positive outcome.

9. RECOMMENDATIONS

Adequacy of Information

9.1. The above assessment review is based on the information submitted by the Applicant as part of the applications for the Notices of Requirement for the Takaanini Level Crossings Project. I consider that the information submitted is sufficiently comprehensive to enable the consideration of landscape character and visual amenity effects considerations. In my opinion:

i) The level of information provides a reasonable understanding of the nature and scope of the proposed activity as it relates to the AUP-OP.

ii) The extent and scale of any adverse effects on the environment in terms of landscape character and visual amenity effects are able to be assessed.

NoR's recommendations

Having considered the Takaanini Level Crossings NoRs and their landscape character and visual amenity effects considerations, and the associated set of conditions, I consider that the NoRs should be recommended confirmed with amended Condition 12(a), and new condition 12(g)(iii)(i).

Amendments to Conditions

9.2. As outlined above, Condition 12(a) should be consistent with condition 12(d) and read:

'A ULDMP shall be prepared ~~prior to the Start of Construction for a Stage of Work~~ at least six (6) months prior to the start of detailed design for a Stage of Work.'

9.3. I also consider that an additional clause should be added to Condition 12(g)(iii) to ensure an appropriate interface with adjacent land uses as follows:

12 (g) The ULDMP(s) shall include:

(iii) landscape and urban design details – that cover the following:

…

i. interfaces – how the interface and edge treatment with adjoining properties has been treated.

9.4. Subject to the resolution of the above, I confirm that the adverse landscape character and visual amenity effects can be effectively avoided, remedied or mitigated, with positive landscape effects also being facilitated through the NoRs and associated ULDMP conditions.

Rob J Pryor
Registered Tuia Pito Ora NZILA Landscape Architect
6 March 2024

Technical Specialist Memo - Acoustics

To: Joy LaNauze, Reporting Planner

From: Peter Runcie (Acoustics)

Date: 5 March 2024

Subject: **Supporting Growth Alliance – Takaanini Level Crossings NoRs 1 and 2**

Acoustics Assessment

1 Introduction

1.1 I have undertaken a review, on behalf of Auckland Council, of the two (2) Notices of Requirements (NoRs) lodged by the Requiring Authority, Auckland Transport, through the Supporting Growth Alliance (SGA), in relation to acoustics (noise and vibration) effects.

1.2 In writing this memo, I have reviewed the following documents:

a) Assessment of Construction Noise and Vibration Effects ('CNVE report'), Version 1.0 dated 13 October 2023.
b) Assessment of Traffic Noise Effects ('TNE report'), Version 1.0 dated 13 October 2023.
c) Proposed Conditions of consent for both NoRs.

Qualifications and Experience

1.3 I am a Technical Director at SLR Consulting in Auckland, specialising in environmental and architectural acoustics. I hold the qualification of a Bachelor of Science Degree with Honours in Audio Technology from the University of Salford in the United Kingdom. I am a full member of both the Institute of Acoustics (UK) and the Acoustical Society of New Zealand, a member of the New Zealand Planning Institute and SLR's New Zealand representative for the Association of Australasian Acoustical Consultants.

1.4 I have over sixteen years' experience in the field of acoustic consultancy. In my career I have worked on a range of projects within the United Kingdom, Europe, Middle East, Australia, and New Zealand. My work has involved a wide range of acoustic assessments, including working on numerous assessments of environmental noise effects from projects across New Zealand. I have presented evidence at numerous council level hearings, and in the New Zealand Environment Court.

Involvement with Takaanini Level Crossings NOR's

1.5 I was engaged by Auckland Council in May 2023 to review the Takaanini Level Crossings NoRs to determine whether the information provided was sufficiently detailed and accurate to understand the noise and vibration effects of the proposal.

1.6 I visited the sites on 27 April 2023.

Structure

1.7 This document sets out the following:

a) Identification of key noise and vibration issues (Section 2);
b) Construction noise and vibration effects (Section 3);
c) Traffic noise and vibration effects (Section 4);
d) Noise and vibration matters raised in submissions (Section 5);
e) Conclusions and recommendations (Section 6); and
f) Recommended conditions (Section 7).

Expert Witness Code of Conduct

1.8 I confirm that the statements made within this memorandum are within my area of expertise and I am not aware of any material facts which might alter or detract from the opinions I express. Whilst acknowledging this consenting process is not before the Environment Court, I have read and agree to comply with the Code of Conduct for Expert Witnesses as set out in the Environment Court Consolidated Practice Note 2023. The opinions expressed in this memorandum, are based on my qualifications and experience, and are within my area of expertise. If I rely on the evidence or opinions of another, my statements will acknowledge that.

Perceived Conflict of Interest

1.9 I note that SLR Consulting recently acquired 4Sight Consulting and that members of the 4Sight (now SLR) planning team have been engaged by Tahua Partners Limited and Z Energy Limited to prepare submissions on their behalf. I can confirm that I have had no previous contact with people involved in the preparation of submissions in this regard and that I have been engaged to act on behalf of Auckland Council for the purpose of reviewing the notices of requirement as described below. I declare that I have no conflict of interest with the submitters.

2 Key Acoustics Issues

2.1 The following potential effects have been identified and considered across all NoRs:

a) Construction noise and vibration; and
b) Traffic noise and vibration.

2.2 In my opinion the relevant potential effects have been identified.

2.3 The requiring authority's key assessment conclusions and my technical review of these findings are outlined below.

3 Construction Noise and Vibration

Criteria

3.1 A consistent approach has been adopted across all the NoRs regarding construction noise and vibration.

3.2 Applicable construction noise criteria for the projects are based on the requirements of the Auckland Unitary Plan Operative in Part (AUP) –Standards E25.6.27, E25.6.29 and NZS 6803: 1999 *Acoustics – Construction Noise*. I consider the identified noise limits to be appropriate for the proposed construction activities.

3.3 Construction vibration criteria are based on a combination of the requirements of the AUP – Standard E25.6.30 – and the Waka Kotahi *State highway construction and maintenance noise and vibration guide* approach regarding using two categories of vibration (although this guideline is not referenced explicitly). If the Category A criteria cannot be practicably achieved, the focus shifts to avoiding building damage rather than avoiding annoyance by applying the Category B criteria. Building damage is unlikely to occur if the Category B criteria are complied with. I agree with the general approach regarding vibration criteria adopted, including use of a longer night-time period than that required under the Auckland Unitary Plan (**AUP**) to provide better outcomes for receivers. However, I note that the proposed Category B night-time criteria (2 mm/s PPV) is twice as permissive as that within the Waka Kotahi guidelines[1]. This could result in greater effects at night being permitted prior to further mitigation measures being required to be implemented, therefore I recommend that it is reduced to no greater than 1 mm/s PPV in line with the Waka Kotahi guidelines. This would require amendment to the Construction Vibration Standards condition, which I have discussed below.

Assessment

3.4 The future environment and specific details of type and location of receivers at the time of construction are not known, with an identified timeframe of 15 years until construction may commence. The assessment therefore seeks to identify potential effects at existing receivers and a process to manage effects at the time the works take place. Potential effects associated with noise and vibration levels are identified in Table 14 and Table 17 of the CNVE report, I consider these to be reasonable. As a general comment, the assessment identifies that:

a) Receivers within 76 m of unmitigated works could experience levels greater than the daytime noise criterion (70 dB LAeq).
b) Receivers within approximately 20m of works may be subject to vibration levels greater than the AUP daytime vibration amenity criterion (2 mm/s PPV).

3.5 The assessment of construction effects is based on works taking place up to the construction boundary, as illustrated in the General Arrangement Drawings. This is not a fixed boundary as the NoR proposes that the designation does not differentiate between construction areas and operational areas. Given the level of design information available I consider with this approach to be reasonable. I note that there could be a difference in construction noise and vibration levels if the detailed design results in the construction works boundary moving closer to dwellings. However, this scenario is similar to one whereby future dwellings are constructed closer to the designation than currently exist, and so have not been assessed. The proposed conditions provide for this scenario and set out the performance criteria and the process which must be followed.

3.6 Construction noise and vibration contours indicating where exceedance of the criteria is predicted are provided in Appendix A and B. However, the specific levels of infringement (how much above the limits) and duration of potential infringements have

[1] State highway construction and maintenance noise and vibration guide - August 2019, version 1.1 (nzta.govt.nz)

not been provided. Without this information it is only possible to provide high-level commentary around the potential effects for each NoR.

3.7 The proposed process to manage construction noise and vibration effects is set out in Section 12 including creation of a CNVMP and Schedules to manage and mitigate noise and vibration when exceedance of the limits is identified. The process is required under the Construction Noise and Vibration Management Plan (CNVMP) and Schedule to a CNVMP conditions. I consider this approach to be reasonable.

3.8 I have provided comments on the key conclusions related to construction noise and vibration associated with individual locations in **Table 1** below. As identified effects in different locations are similar (due to the nearest existing receivers being similar distances from the works) I have combined the comments for brevity.

Table 1 Construction Noise and Vibration

Notice of Requirement / Location	Review and Comment
NoR 1 - Taka Street and Manuia Road	Daytime construction noise levels up to 80 dB L_{Aeq} (limit of 70 dB L_{Aeq}) are predicted to occur intermittently at the closest receivers. At this level, indoor effects would broadly fit in the following Table 14 description "*Phone conversations would become difficult, and face to face conversations would need slightly raised voices. For residential activities TV and radio sound levels may need to be raised. Continuing office work may become difficult*." This would potentially result in needing the works to take place while the properties are unoccupied, via arrangement with the occupants, subject to the duration of such levels. Night-time construction noise levels up to 55 dB L_{Aeq} (limit of 45 dB L_{Aeq}) are predicted to occur during lifting of bridge spans across the rail line which requires the rail line to be closed. Internal noise levels, with windows closed, are expected to be less than 35 dB L_{Aeq} and so likelihood of sleep disturbance is low. Vibration is predicted to comply with the nominated daytime criteria. For works in this location, exceedance of the noise criteria is likely during daytime and night-time works and so consultation and identification of specific mitigation measures are likely to be essential following the process required under the 'Schedule to a CNVMP' condition. The same process would apply to future receivers should these exist closer to the works at the time of construction.

Notice of Requirement / Location	Review and Comment
NoR 1 - Manuroa Road NoR 2 – Walters Road	Daytime construction noise levels up to 75 dB L_{Aeq} are predicted to occur intermittently at the closest receivers. At this level indoor effects would broadly fit in the following Table 14 description "*Face to face and phone conversations and TV watching would continue to be affected. Office work can generally continue*." Night-time construction noise levels up to 50 dB L_{Aeq} (limit of 45 dB L_{Aeq}) are predicted to occur during lifting of bridge spans across the rail line which requires the rail line to be closed. Internal noise levels, with windows closed, are expected to be less than 35 dB L_{Aeq} and so likelihood of sleep disturbance is low. Vibration is predicted to comply with the nominated daytime criteria. For works in this location, exceedance of the noise criteria is likely during daytime and night-time works and so consultation and identification of specific mitigation measures are likely to be essential following the process required under the 'Schedule to a CNVMP' condition. The same process would apply to future receivers should these exist closer to the works at the time of construction.
NoR 1 - Spartan Road	Daytime construction noise levels are predicted to comply with the limit (70 dB L_{Aeq}) at residential receivers. Night-time construction noise levels up to 55 dB L_{Aeq} (limit of 45 dB L_{Aeq}) are predicted to occur during lifting of bridge spans across the rail line which requires the rail line to be closed. Internal noise levels, with windows closed, are expected to be less than 35 dB L_{Aeq} and so likelihood of sleep disturbance is low. Vibration is predicted to comply with the nominated daytime criteria. For works in this location, exceedance of the noise criteria is likely during night-time works and so consultation and identification of specific mitigation measures are likely to be essential following the process required under the 'Schedule to a CNVMP' condition. The same process would apply to future receivers should these exist closer to the works at the time of construction.

4 Traffic Noise and Vibration

Criteria

4.1 Rule E25.6.33 of the AUP requires that new roads and altered roads which are within the scope of NZS 6806:2010 *Acoustics – Road-traffic noise – New and altered roads* (NZS 6806) comply with the requirements of that standard. The assessment has applied the requirements of NZS 6806. I consider this to be the appropriate standard.

4.2 In brief NZS 6806 sets out the process for managing noise effects from new and altered roads. It follows a process of identifying noise sensitive receptors along the route, predicting noise levels at those receptors, comparing the predicted noise levels against noise criteria in the standard (Categories A, B and C). The category criteria apply as follows:

a) Where consistent with the best practicable option for the mitigation of road traffic noise, the criteria of Category A (the most stringent criteria) shall apply;
b) Where is it inconsistent with the adoption of the best practicable option to achieve the criteria of Category A, the criteria of Category B shall apply;
c) Where is it inconsistent with the adoption of the best practicable option to achieve the criteria of Category A or Category B and where the internal noise levels of any habitable space would be greater than 45 dB LAeq, the criteria of Category C shall apply;
d) Where it is it inconsistent with the adoption of the best practicable option to achieve the criteria of Category A, B or C, the internal noise levels of any habitable space shall be mitigated to the extent that it is practicable.

4.3 Criteria for assessment of traffic vibration is not provided in the assessment. I consider this a potential weakness to the assessment and provide commentary on this below.

Assessment

4.4 The assessment methodology is set out in Section 4 the TNE report. I consider that the modelling approach, inputs and software are appropriate for this stage of the application.

4.5 Section 4.4 identifies that the modelling of existing road noise is within 2 dB decibels of measured levels at measurement position MP1. Further, the assessment notes that Section 5.3.4.2 of NZS 6806 states the difference between measured and predicted levels should not exceed ±2dB.

4.6 The predicted noise levels are provided in tables as well as noise contour graphics as appendices.

4.7 General subjective perceptions to changes in noise level are provided in Table 9. I generally agree with those descriptions. Most relevant for the NoRs is that a change of 1-2 dB could be considered as being subjectively insignificant, changes of 3-4 dB being just perceptible, and changes of 9-11 dB representing a halving or doubling in loudness.

4.8 I have summarised the key findings related to traffic noise and vibration associated with individual NoRs in **Table 2** below.

Table 2 Traffic Noise

Notice of Requirement	Review and Comment
NoR 1 – Spartan Road	The predicted road noise levels at existing PPFs[2] are identified as within Category A under the Do-minimum scenario. Category A is the most stringent external noise criteria set under NZS 6806. Traffic noise levels are predicted to reduce by as much as 5 dB at existing PPFs. I consider these results and recommended mitigation to be reasonable based on the inputs and methodology.
NoR 1 – Manuia Road	The predicted road noise levels at existing PPFs are identified as split between Category A and Category B, with three Category C receivers under the Do-minimum scenario. Category A is the most stringent external noise criteria set under NZS 6806 and Category C is the point at which at property treatment mitigation must be considered. Following implementation of noise barriers, noise levels are reduced such that 20 PPFs fall within Category B with no PPFs within Category C. Traffic noise levels, with mitigation in place, are predicted to increase at most existing receivers by a clearly noticeable margin (increases of 5-11 dB) with a smaller number expected to sit in the imperceptible to just noticeable range. I consider these results and recommended mitigation to be reasonable based on the inputs and methodology.
NoR 1 – Manuroa Road	The predicted road noise levels at existing PPFs are identified as within Category A under the Do-minimum scenario. Category A is the most stringent external noise criteria set under NZS 6806. Traffic noise level changes are predicted to be largely imperceptible, with noise at some existing PPFs reducing by as much as 11 dB. I consider these results and recommended mitigation to be reasonable based on the inputs and methodology.
NoR 1 – Taka Street	The predicted road noise levels at existing PPFs are identified as mostly within Category A under the Do-minimum scenario. Category A is the most stringent external noise criteria set under NZS 6806. 11 PPFs fall within Category B and 3 PPFs within Category C. Traffic noise level changes are predicted to be largely imperceptible, with noise at a small number of existing PPFs increasing by up to 8 dB. The TNE notes that 'a low noise road surface' is already implemented in the Do-minimum design and noise barriers would need to be 2.5-3.5 m high which is not considered practicable in a suburban environment. It is noted (page 17 of the TNE) that no quieter road surfaces are suitable for these designations due to strength and skid

[2] Protected premises and facilities (PPFs) include existing houses, schools, marae and similar as defined in NZS 6806.

Notice of Requirement	Review and Comment
	resistance requirements. Building modification mitigation is therefore recommended at those existing PPFs in Category C. The TNE notes that if the area is developed with multi storey dwellings, these will be less shielded from road traffic noise on the bridge. The authors consider that, as these new dwellings would be developed near the NIMT and the new Taka Street crossing, dwellings will be well insulated and provide ventilation to allow for a suitable indoor noise environment. However, I note that there is no requirement for this to take place (either under the Building Code or via the requirements of the Auckland Unitary Plan) so there is limited reliance that can be placed on this statement or the likelihood of this as an outcome.
NoR 2 – Walters Road	The predicted road noise levels at existing PPFs[3] are identified as within Category A under the Do-minimum scenario. Category A is the most stringent external noise criteria set under NZS 6806. Traffic noise level changes are predicted to be largely imperceptible, with noise at some existing PPFs reducing by 3-4 dB and at others increasing by as much as 9 dB. I consider these results and recommended mitigation to be reasonable based on the inputs and methodology.

4.9 The above predicted results and effects are based on AC14 road low noise road surfaces on all roads, other than low volume service lanes. The resultant noise effects as described in the TNE report are in most cases dependent on road surfaces being implemented which achieve the same or better acoustic performances. This is broadly captured under the proposed Low Noise Road Surface condition (Condition 25) which requires asphaltic concrete surfacing (or equivalent low noise road surface) throughout each of the NoRs.

4.10 No assessment of potential vibration effects is provided. Avoiding potential adverse amenity effects can be achieved through the provision of smooth road surfaces, however, this is reliant on the road design being required to result in smooth and even surfaces and to be maintained as such for the duration of the road's life (particularly important when the road includes elements such as bridge joints/connections). For this to be the case in a way which can be relied upon I recommend that it is captured in a condition of consent, such as the Low Noise Road Surface condition as per my comments below. Should a more robust requirement be preferred, this could be achieved through setting performance requirements for vibration (such as is done for noise) based on the Standard adopted by Waka Kotahi (NS 8176.E : 2ED 2006 Vibration and Shock – Measurement of Vibration in Buildings from Land based Transport and Guidance to Evaluation of its Effects on Human Beings).

[3] Protected premises and facilities (PPFs) include existing houses, schools, marae and similar as defined in NZS 6806.

Future PPFs

4.11 Future increased density of residential development, including multi-storey dwellings or apartments, near to the NoR alignments is noted as expected. As the extent and detail of future development is not yet known (i.e., with building consents issued) assessment at potential PPFs is not required to be considered under the guidance in NZS 6806. Therefore, mitigation has only been identified in the TNE report based on PPFs existing at the time of the assessment.

4.12 The TNE assessment sets out an expectation that the design of new dwellings should take into account the existing and predicted noise environment. However, how this information would be provided and developers made aware is not clearly set out in the assessment. Consideration of traffic noise as part of new developments containing PPFs is not a requirement in the AUP, as it is in some District Plans, or the Building Consent process and so there is a chance that awareness and consideration of this potential effect could fall through the gaps as the area is developed.

4.13 It is my opinion that future dwellings (constructed prior to the designation detailed design) warrant consideration in terms of noise effects. However, I understand the Requiring Authority position that once the designation is in place making information available regarding the level of noise would assist developers in factoring this into the design of their developments. To provide a balance of shared responsibility it is my opinion, based on the current framework of guidance, that consideration of barriers and the long-term use of low noise pavements (i.e., mitigation to control the road noise at source) should consider the environment at the time the Best Practicable Option (BPO) assessment of noise mitigation takes place, potentially 10+ years in the future.

4.14 On this basis it is my recommendation that the conditions include a requirement for the future BPO assessment to determine the BPO for the environment that is present prior to construction starting. This would ensure the most appropriate source noise mitigation measures (road surfaces, barriers etc.) are identified and able to be incorporated into the design. I consider it pragmatic that the Requiring Authority is not responsible for acoustically treating dwellings that are constructed following the lodgement of the NoR so long as future road noise level information is made clearly and easily available to developers such that they are able to consider those effects in their designs (the intent of this is captured in the Land Use Integration Process Condition – 3 (d) (i) E).

4.15 An alternative option to the Land Use Integration Process Condition – 3 (d) (i) E could be for the noise contours to be included as a layer on the Auckland Council GeoMaps GIS website such that it appears on property files directing people to the project website where they can find the detailed noise contour information. However, I acknowledge that how this may be achieved is beyond my expertise as an acoustic expert.

5 Submissions

5.1 Of the submissions received, a number raised noise and/or vibration as a concern these can be broken down into the topics of construction effects and permanent effects. The number of submissions per topic are set out in **Table 3** below.

Table 3 Number of Submissions

Topic	Notice of Requirement	Number of submissions
Construction Effects	NoR 1	14
	NoR 2	11
Permanent (operational) effects	NoR 1	4
	NoR 2	6

5.2 The details of the submissions are discussed in Table 4 below.

Table 4 Submissions and Comments

Notice of Requirement	Submitter	Submission and Comments
NoR 1 and NoR 2	Takanini Business Association Inc (NoR 1 submission 4, NoR 2 submission 3) Portsmouth Family Trust (NoR 1 submission7) Oceania Healthcare (NoR 1 submission 11) B&F Papers Ltd (NoR 1 submission 12) Aintree Group Ltd (NoR 1 submission 15) Halls Transport (NoR 1 submission 29) Tahua Partners Limited (NoR 1 submission 30) Vertex Lubricants (NoR 1 submission 31) Takanini Village Limited and Tonea Properties (NZ) Limited (NoR 1 submission 37, NoR 2 submission 17) Sunlight Holdings Limited and South Auckland Marine Limited(NoR 1 submission 38, NoR 2 submission 18)	Concern was raised regarding construction noise and vibration effects. *Comment: The proposal sets out the limits and how construction noise and vibration will be required to be managed (via a CNVMP) to mitigate potential effects at surrounding properties, I consider this to be a reasonable approach.*

	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited (NoR 1 submission 39, NoR 2 submission 19) Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited (NoR 1 submission 40, NoR 2 submission 20) Krittibas Dasgupta (NoR 2 submission 4) Basil Kuriakose Portrush Lane and 6 Signatories (NoR 1 submission 45) Van Den Brink 254 Limited (NoR 2 submission 8) Jayanta Bhaduri and Sudarshana Bhaduri (NoR 2 submission 13)	
NoR 2	Jayanta Bhaduri and Sudarshana Bhaduri (Submission 13)	Concern was raised regarding noise effects at the dwelling at 3 Arion Road. *Comment: Noise levels at this property are predicted to reduce by approximately 5 dB, a noticeable reduction in traffic noise levels.*
NoR 1	Matthew Koppens & Denise Ibbett (Submission 10)	Concern was raised regarding noise and vibration effects at the business property at 26 Oakleigh Avenue. *Comment: As a business, this property is not considered a PPF under the assessment standard and so specific noise levels have not been provided. As a new road is proposed to be created closer to the submitter, road traffic noise levels are likely to increase. However, to help the submitter understand the potential effects the requiring authority would need to confirm in evidence or at the hearing the specific predicted levels at this location to confirm potential changes as part of this proposal.* *I have commented on vibration earlier in my review and have recommended condition wording change aiming to provide greater certainty of construction and maintenance of roads to minimise and avoid adverse vibration effects.*

NoR 1	H20 Pipelines Ltd (Submission 27)	Concern was raised regarding noise effects at the business property at 22 Oakleigh Avenue. *Comment: As a business, this property is not considered a PPF under the assessment standard and so specific traffic noise levels have not been provided. As a new road is proposed to be created closer to the submitter, road traffic noise levels are likely to increase at this location. However, to help the submitter understand the potential effects the requiring authority would need to confirm specific predicted levels at this location to confirm potential changes and effects either in evidence or at the hearing.*
NoR 1 and 2	Kāinga Ora Homes and Communities (NoR 1 submission 43, NoR 2 submission 23)	Kāinga Ora seek through their submission: 1. To require mitigation be provided to all properties exposed to levels of 55 dB $L_{Aeq(24h)}$ or greater with reference to evidence prepared by Ms Drewery (an acoustic specialist not involved in this project). 2. That Operational Conditions are amended to address BPO for PPF identification and assessment that recognises the receiving environment as it exists at the time; 3. That low noise road surfaces are required on all roads within the designations; and 4. Building modification to be required for all properties likely to receive internal road traffic noise levels greater than 40 dB $L_{Aeq(24h)}$. *Comment:* *1. I cannot comment on the prior evidence of Ms Drewery. However, I acknowledge that there are various international guidance documents (as noted in the submission) which indicate external levels of 50-55 dB $L_{Aeq(24h)}$ to be preferable for road noise at residential receptors for the avoidance of moderate annoyance within populations and the avoidance of potential adverse health effects. In practice it can be difficult to achieve these levels due to the limitations in source mitigation such as the inability to control traffic volumes or the requirement for significant noise barriers which would either block access to property or offer an undesirable urban design outcome. Where control of road noise control at source is not feasible, the quantity of buildings that might require acoustic treatment could become considerable. Further complicating matters is the fact that the majority of these PPFs would have been constructed after the road, raising*

		the question of who should be responsible for the mitigation effort. Notwithstanding, the assessment provided in the TNE report is in accordance with NZS 6806, which sets out specific road traffic noise performance criteria. This is the standard required for the assessment of road traffic under the Auckland Unitary Plan (standard E25.6.33) therefore meeting the expectations for road traffic noise in Auckland. 2. *I have noted the lack of consideration of the effects of noise on future PPFs and provided my comments on this topic in paragraphs **4.11** to **4.15** of my review. I have recommended condition wording changes on this topic in **Section 7** below.* 3. *I note that proposed Condition 25 requires low noise road surfaces and applies for all designations, as requested in the submission.* 4. *Kāinga Ora identify that there may be circumstances where existing dwellings experience increased exposure to noise (though the specific level of increase required to trigger this is not defined) and consider that mitigation is necessary in these instances to achieve an internal noise level of 40 dB $L_{Aeq(24h)}$, effectively mitigation from road noise levels greater than 55 dB $L_{Aeq(24h)}$ (paragraphs 26 and 27 of the submission). This represents a departure from NZS 6806 which only requires at property mitigation from altered road noise levels greater than 67 dB $L_{Aeq(24h)}$. However, I note that it is not uncommon for such a requirement to be adopted (and proposed by Auckland Transport or Waka Kotahi) for the avoidance of reverse sensitivity in the instance of new residential subdivisions adjacent to existing noisy roads or state highways. For further context, Appendix A of the TNE identifies that most PPFs predicted to be exposed to levels greater than 55 dB $L_{Aeq(24h)}$ under the Do Minimum scenario already experience similar levels of noise and so clarity from Kāinga Ora would be required in evidence or at the hearing as to what level change they would consider sufficient to warrant consideration of such mitigation.* *As an overarching comment, the approach taken in the TNE is consistent with that taken across NZ in accordance with the required Standard and the AUP. Some of the changes proposed by the*

		submitter would resulting in significant departure from the Standard in terms of external and internal noise levels and therefore mitigation and may have significant implications on road traffic noise assessment across NZ. Such changes would require the involvement of multiple stakeholders (Waka Kotahi, Auckland Transport, Auckland Council among others) and disciplines.
NoR 1	Ministry of Education (NoR 1 submission 36, NoR 2 submission 16)	Concern was raised regarding potential construction noise and vibration effects at education facilities. The request sought a CNVMP with specific wording related to engagement with education facilities should exceedances be identified as likely. *Comment: The process requested is already provided for in proposed conditions 21 and 22 in a way that would include education facilities, I do not consider a change to the condition wording in this respect to be necessary.*
NoR 2	Takanini Childcare Investments Limited (Submission 15)	The submission queried whether the consideration of a rail-under-road trench had been properly assessed as an alternative. The submission noted this would help avoid, remedy or mitigate adverse noise effects of the whole rail corridor on residents flanking the corridor. *Comment: Whilst putting rail within a trench under the road would likely reduce rail noise local to the trench locations I am not qualified to say whether or not this would require the design to include large tracts of rail corridor to be in a trench, thereby having a greater effect, or whether local under road trenches would be feasible which would reduce positive noise effects. To help the submitter understand the alternatives considered the Requiring Authority would need to confirm either in evidence or at the hearing the basis of the alternatives assessment and how it considered potential noise effects related to a rail-under-road trench alternative.*
NoR 2	Alda Investments Limited and DNIT (164-166 Porchester Road) (Alda = Submission 10, DNIT = Submission 11)	Concern was raised regarding: 1. Construction noise and vibration; 2. That traffic volumes were not consistent between NoR 2 and NoR 4 (South FTN) which could change the predicted noise levels and mitigation required; and 3. That any building mitigation to control future road noise should best be installed now given the apartment buildings are currently under

		construction to avoid waste and costs associated retrofitting. *Comment:* *The proposal sets out the limits and how construction noise and vibration will be required to be managed (via a CNVMP) to mitigate potential effects, I consider this to be a reasonable approach.* *I defer to the traffic experts regarding the assumed traffic volumes forming part of the assessment. Should changes be made to these traffic volumes the requiring authority would need to confirm either in evidence or at the hearing whether these volume changes are sufficient to result in differing noise level predictions. I note that a large change in traffic volumes is typically required to generate a meaningful change in noise levels.* *The TNE appears to assess noise at the previously existing dwellings (understood to now have been demolished), none of which were identified to be in Category C which would trigger consideration of at property treatment options. To help the submitter understand the potential effects at the under-construction apartments the Requiring Authority would need to confirm specific levels and effects at the building (factoring in any changes to assumed traffic volumes) either in evidence or at the hearing.*

6 Conclusions and Recommendations

6.1 The assessment considered in this memo does not identify any reasons to withhold consent. The aspects of the proposal considered by this memo could therefore be granted consent, subject to the proposed conditions with suggested modifications as detailed below.

6.2 A list of where I consider further information is required to assist in understanding better the issues raised in their submissions are as follows:

a) Predicted noise levels and effects at the commercial properties at 22 and 26 Oakleigh Avenue – Requiring Authority.
b) Clarification as to what change in external noise levels, when existing noise levels are already above their recommended threshold, they would consider sufficient to warrant consideration of at property treatment as a mitigation measure – Kāinga Ora.
c) Confirmation of the basis of the alternatives assessment and how it considered potential noise effects related to a rail-under-road trench alternative – Requiring Authority.
d) Predicted noise levels and effects at the under-construction apartments at 164-166 Porchester Road – Requiring Authority.

7 Recommended Conditions

7.1 Should consents be granted, the draft conditions provided by the Requiring Authority are recommended to avoid, mitigate, or remedy environmental effects of the proposal and to implement mitigation proffered by the Requiring Authority. I have made suggested changes to a small number of these draft conditions, based on my comments above.

7.2 Whilst the condition wording appears generally consistent across all the NoRs, the numbering may not always be the same for the same condition in each NoR. To avoid duplication, I have commented on the condition wording for NoR 1 which can then be adapted to the other NoRs as necessary.

Traffic Noise Standards (Unnumbered condition before Condition 26 from NoR 1)

7.3 Based on my paragraphs 4.11 to 4.15, I recommend the following wording is added at the end of this condition to capture the requirement to consider noise levels at future dwellings.

Notwithstanding the above applying to the PPFs in Schedule 2, conditions 26 to 37 shall be read as also including a requirement for the future BPO assessment to determine the BPO for the environment that is present prior to construction starting (in terms of road surface, barriers, or other source noise mitigation), noting that the Requiring Authority is not responsible for acoustically treating dwellings that are constructed following the lodgement of the NoR.

7.4 Further, clause (j) of this condition refers to PPFs identified in green, orange or red in Schedule 2 of the conditions; however, the figures in Schedule 2 identify PPFs in blue. I recommend that this is corrected in the condition as follows.

(j) Protected Premises and Facilities (PPFs) – means only the premises and facilities identified in blue ~~green, orange or red~~ in Schedule 2: PPFs Noise Criteria Categories;

Construction Vibration Standards (Condition 20 from NoR 1)

7.5 I recommend that the Category B night-time criteria is changed in the Construction Vibration Standards condition for all NoRs to reflect the Waka Kotahi guidelines, as discussed in paragraph **3.3** above.

(a) Construction vibration shall be measured in accordance with ~~ISO 4866:2010 Mechanical vibration and shock – Vibration of fixed structures – Guidelines for the measurement of vibrations and evaluation of their effects on structures~~ DIN4150-3:1999 and shall comply with the vibration standards set out in the following table as far as practicable.

Table 20.1 Construction vibration criteria

Receiver	Details	Category A	Category B
Occupied Activities sensitive to noise	Night-time 2000h - 0630h	0.3mm/s ppv	1~~2~~mm/s ppv
	Daytime 0630h - 2000h	2mm/s ppv	5mm/s ppv
Other occupied buildings	Daytime 0630h - 2000h	2mm/s ppv	5mm/s ppv
All other buildings	At all other times	Tables 1 and 3 of DIN4150-3:1999	

~~*Category A criteria adopted from Rule E25.6.30.1 of the AUP*~~

~~**Category B criteria based on DIN 4150-3:1999 building damage criteria for daytime*~~

(b) Where compliance with the vibration standards set out in Table 20.1 is not practicable, the methodology in Condition 22 shall apply.

Low Noise Road Surface (Condition 25 from NoR 1)

7.6 I recommend changes to the Low Noise Road Surface condition for both NoRs to reflect my comments regarding consistency between the noise effects of the as-built road and the effects assumed as part of the assessment and to provide greater certainty regarding vibration effects.

(a) Asphaltic concrete surfacing (or equivalent low noise road surface) shall be implemented within 12 months of Completion of Construction of the project.
(b) The road surface shall be designed, implemented and maintained to be smooth and even to avoid adverse vibration generated from traffic passing over uneven surfaces.
(c) Any future resurfacing works of the Project shall be undertaken in accordance with the Auckland Transport Reseal Guidelines, Asset Management and Systems 2013 or any updated version and asphaltic concrete surfacing (or equivalent low noise road surface) shall be implemented. ~~where~~
~~(i) The volume of traffic exceeds 10,000 vehicles per day; or~~
~~(ii) The road is subject to high wear and tear (such as cul de sac heads, roundabouts and main road intersections); or~~
~~(iii) It is in an industrial or commercial area where there is a high concentration of truck traffic; or~~
~~(iv) It is subject to high usage by pedestrians, such as town centres, hospitals, shopping centres and schools.~~
~~(d) Prior to commencing any future resurfacing works, the Requiring Authority shall advise the Manager if any of the triggers in Condition 25(c)(i) – (iv) are not met by the road or a section of it and therefore where the application of asphaltic concrete surfacing (or equivalent low noise road surface) is no longer required on the road or a section of it. Such advice shall also indicate when any resealing is to occur.~~

S42A REPORT ON THE TAKANINI LEVEL CROSSINGS NOTICES OF REQUIREMENT – PARKS PLANNING

1. Introduction

1.1. My name is Andrew David Miller. I am a Resource Management Planner at CoLab Planning, a planning consultancy based in Auckland. I hold a Bachelor of Planning from the University of Auckland (2014) and I am an Intermediate Member of the New Zealand Planning Institute. I have 9 years of planning experience in local government and private practice, mainly in the Auckland region.

1.2. I am engaged by Auckland Council as an expert planner to provide specialist input for the Parks and Community Facilities department. I am providing independent expert planning evidence on parks, open space, recreation, and sports for statutory and consent processes. I have been involved in this project since April 2023. I am not engaged by or providing planning evidence for Auckland Council in its capacity as an asset and/or landowner.

1.3. I have reviewed the following documents in preparing this report:

1.3.1. Takanini Level Crossings, Assessment of Effects on the Environment, November 2023, V2.0.
1.3.2. Appendix A Assessment of Alternatives.
1.3.3. General Arrangement Plans for each part of the corridor.
1.3.4. Takanini Level Crossings, Social Impact Assessment, October 2023 Version 1.0, and updated Attachments C and D submitted November 10 as part of the s92 response.
1.3.5. Takanini Level Crossings, Assessment of Landscape and Visual Effects (LVEA), November 2023 Version 2.0, and updated Attachments submitted November 10 as part of the s92 response.
1.3.6. Takanini Level Crossings, Supplementary LVEA, October 2023, Version 1.0.
1.3.7. Takanini Level Crossings, Assessment of Flooding Effects, October 2023 Version 1.0
1.3.8. Form 18 documents for each NoR package, including conditions offered relating to management of effects on open space.
1.3.9. Letter dated 10 November 2023, titled "*Re: Response to request for further information in accordance with section 92 of the Resource*

Management Act 1991 for the Takanini Level Crossings Project", which included further information responses to questions asked under section 92 of the Resource Management Act 1991 (RMA).

1.3.10. Submissions and summary of submissions on the Takanini Level Crossings Notices of Requirement.

1.3.11. Code of conduct for expert witnesses in the Environment Court of New Zealand Te Kōti Taiao o Aotearoa Practice Note 2023, which sets out the standards and expectations for expert evidence.

1.3.12. Papakura Open Space Network Plan September 2019

1.3.13. Papakura Greenways Local Paths Plan September 2016

1.3.14. Papakura Local Board Plan 2023

1.3.15. Papakura Urban Ngahere Action Plan 2022

1.3.16. Council arboricultural s42A memorandum by Arborlab

1.3.17. Council social impact s42A memorandum by Formative

1.4. I visited all affected parks and open space sites on 10 May 2023 and 3 February 2024. I observed the existing conditions, features, and functions of each site, and the potential impacts of the proposed works.

2. Code of Conduct

2.1. This report is my expert technical evidence on the Takanini Level Crossings Notices of Requirement (NoRs) and submissions relevant to my area of expertise, which is parks planning. I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 and have complied with it in preparing this report and agree to comply with it when giving any oral evidence to the Hearing. Other than where I state that I am relying on the advice of another person, this evidence is within my area(s) of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

2.2. I have qualified my evidence where I consider that any part of it may be incomplete or inaccurate, and identified any information or knowledge gaps, or uncertainties in any scientific information or mathematical models and analyses that I am aware of, and their potential implications. I have stated in my evidence where my opinion is not firm or concluded because of insufficient research or data or for any other reason and have provided an assessment of my level of confidence, and the likelihood of any outcomes specified, in my conclusion.

3. Scope and Structure

Subject Matter

3.1. The scope of this report is to provide a parks planning review of the Takanini Level Crossings NoRs and the submissions received on them. The NoRs consist of:

3.1.1. Takanini Level Crossings: Spartan Road, Manuia Road, Manuroa Road, Taka Street (NoR 1)
3.1.2. Takanini Level Crossings: Walters Road (NoR 2)

3.2. The NoRs seek to designate land for the purpose of constructing, operation, maintenance, and upgrade of transport infrastructure at Spartan Road, Manuia Road, Manuroa Road, Taka Street, and Walters Road. The applicant explains that the purpose of the works is to address future railway upgrades to the North Island Main Trunk Railway (NIMT). The proposal would see the closure of three existing level crossings, construction of three new vehicle bridges and two pedestrian bridges over the NIMT, and ancillary upgrades to the local transport network. The NoRs also seek to undertake works within and adjacent to existing open spaces, which are the focus of my assessment. New open space opportunities are also presented by the applicant, and I refer to this in my discussions below.

3.3. The structure of this report is as follows:

3.3.1. Section 4: Summary of key issues
3.3.2. Section 5: Comment on the Assessment of Effects by Supporting Growth Alliance
3.3.3. Section 6: Submissions
3.3.4. Section 7: Comment on SGA Proposed Conditions
3.3.5. Section 8: Recommendations

4. Summary of Key Issues

4.1. The key parks planning issues that I have identified and addressed in this report are:

Table 1: Key Parks Planning Issues

Notice of Requirement	Key Parks Planning Issues
Takanini Level Crossings: Spartan Road, Manuia Road, Manuroa Road, Taka Street (NoR 1)	i. Impacts on 12A Manuroa Road – Takanini Scout Hall Reserve, 24R Taka Street - Takanini Reserve ii. Effects: Trees / open space amenity iii. Mitigation and Compensation Measures iv. Alignment with Greenway and Open Space Plans
Takanini Level Crossings: Walters Road (NoR 2)	i. Impacts 19R Walters Road – Walters Access Way, 40R Walters Road – unnamed park ii. Effects: Trees / open space amenity iii. Mitigation and Compensation Measures iv. Alignment Greenway and Open Space Plans

Comment on the Assessment of Effects by Supporting Growth Alliance

Effects of the Designation

4.2. The AEE provides a general overview of the effects of the designation on the environment, including the existing and proposed parks and open spaces along the designation corridors. The AEE briefly identifies the affected open spaces and reserves for each NoR.

4.3. The Urban Design Evaluation notes the potential for the designation to enable future changes to the parks and open spaces, such as landscape integration/treatment and enhancement.

4.4. I generally agree with the AEE's identification and description of the affected open spaces and reserves. The LVEA[1] also tabulates the key open spaces that are affected by the designation. The four open spaces that are directly affected by the NoRs are discussed below.

[1]Section 5.1.2 Table 10 of LVEA v1

11 Manuia Road / 12A Manuroa Road - Takanini Scout Hall Reserve

Figure 1: Aerial view of 11 Manuia Road / 12A Manuroa Road

Description:

4.5. This reserve, shown Figure 1, is affected by NoR 1 only. The reserve is an irregular shaped site and gains road access for vehicles from Manuia Road. An entrance strip extends from the main body of the land to Manuroa Road, where a gravelled track and vehicle crossing have been formed.

Reserve features:

4.6. There is a 280m^2 single-storey hall building located on the reserve. This is denoted as a 'scout hall' within the Urban Design Evaluation – viewable Figure 2. Based on a site visit in February 2024, the hall also appears to be used as a place of worship for a local community group. The site is zoned Open Space - Community Zone under the AUP(OP).

Community function of the reserve:

4.7. The open space provides indoor community space for local community groups. The outdoor grounds have minimal features but provide a small passive space for people to access the outdoors or walk between Manuia and Manuroa Roads.

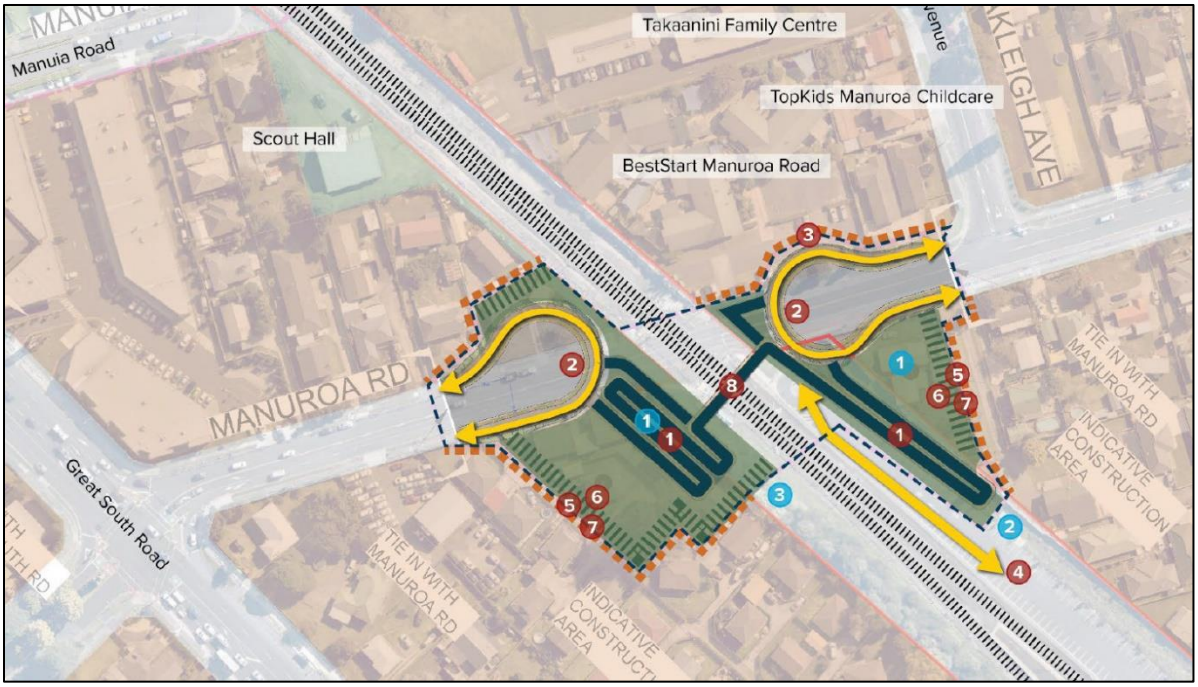

Figure 2: Opportunities and constraints diagram from Urban Design Evaluation report

Area affected by NoR 1:

4.8. The submitted General Arrangement Plans and Form 18 Plans show that about 125m^2 of land will be taken from Takanini Scout Hall Reserve and from around Manuroa Road to close the existing level crossing and to form a vehicle turning head. Indicative landscape opportunities are shown within the Urban Design Evaluation along the future interface with the reserve's entrance strip and private dwellings. Figure 2 provides a visual explanation.

4.9. The 125m^2 of land that would be taken affects only the entrance strip of hall reserve and the existing vehicle crossing. There is no vegetation or existing structures in this location.

24R Taka Street – Takaanini Reserve

Description:

4.10. This reserve, shown Figure 3, is affected by NoR 1 only. The reserve is known interchangeably as 'Taka' or 'Takanini' or 'Takaanini' Reserve. For the purposes of this document, it will be referred to as 'Takaanini Reserve'. The reserve is mainly a rectangular parcel of land extending from Station Road to Taka Street. The site is zoned Open Space - Informal Recreation Zone under the AUP(OP).

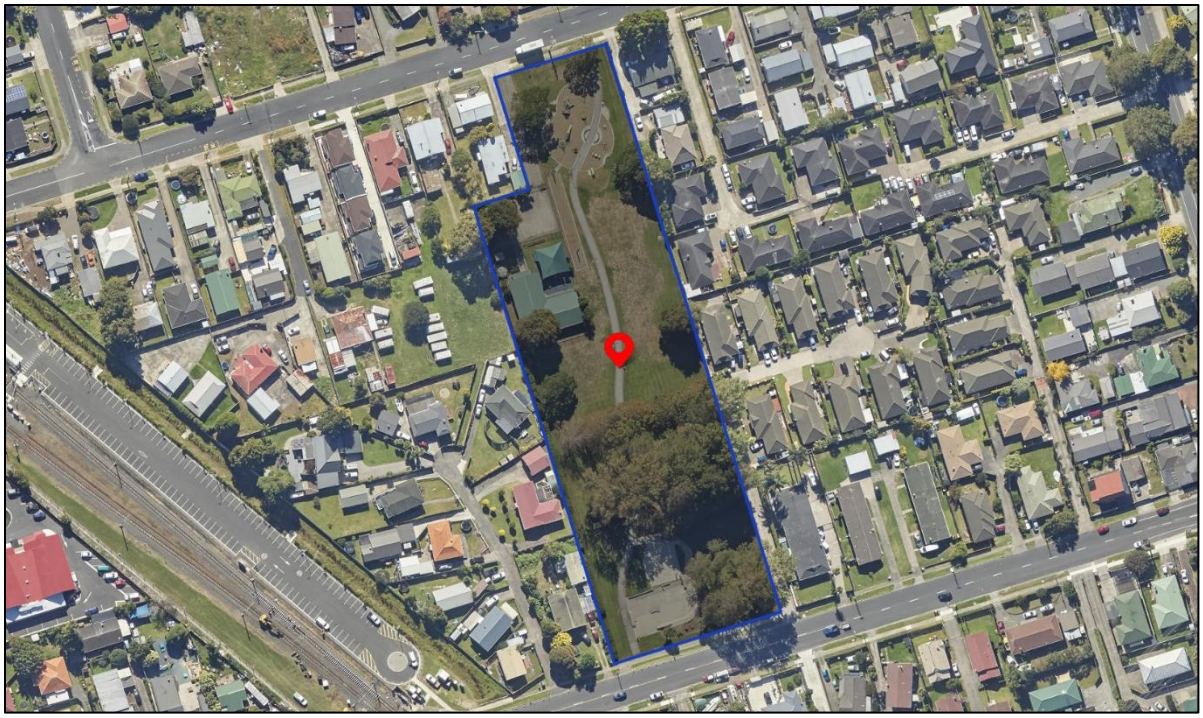

Figure 3: Aerial view of Takaanini Reserve

Reserve features:

4.11. There are mature, tall trees of various species growing within Takaanini Reserve. This includes several sporadic clusters, but most of the tree stock is contained in a large group sited about 40m from Taka Street. A smaller group of three very large trees, the largest being about 16m tall, is growing adjacent to Taka Street. On the northern side of the reserve there is a childcare centre, a young children's jungle-gym and a flying-fox. A concrete pathway bisects the reserve and connects the adjoining roads to one another. There is a basketball court and a basic skateboard park, catering for older children or adults on the southern side of the reserve near Taka Street. There are also various placards, rubbish bins, lighting, benches, and similar structures allocated near or adjacent to the pathway that meanderings through the site.

Community function of the reserve:

4.12. Takaanini Reserve is a moderately sized park, falling somewhere between the categories of 'neighbourhood park' and 'Suburb Park'[2] that provides for outdoor play activities for people or various ages, a kick-around area, a playground, basketball hoop, and skateboarding area. As noted above, a childcare centre

[2] Definition from Auckland Council Open Space Provision Policy 2016

operates from the park – access to which is gained from Station Road. The park also serves as a pedestrian connection between Station Road and Taka Street and a place for passive recreation.

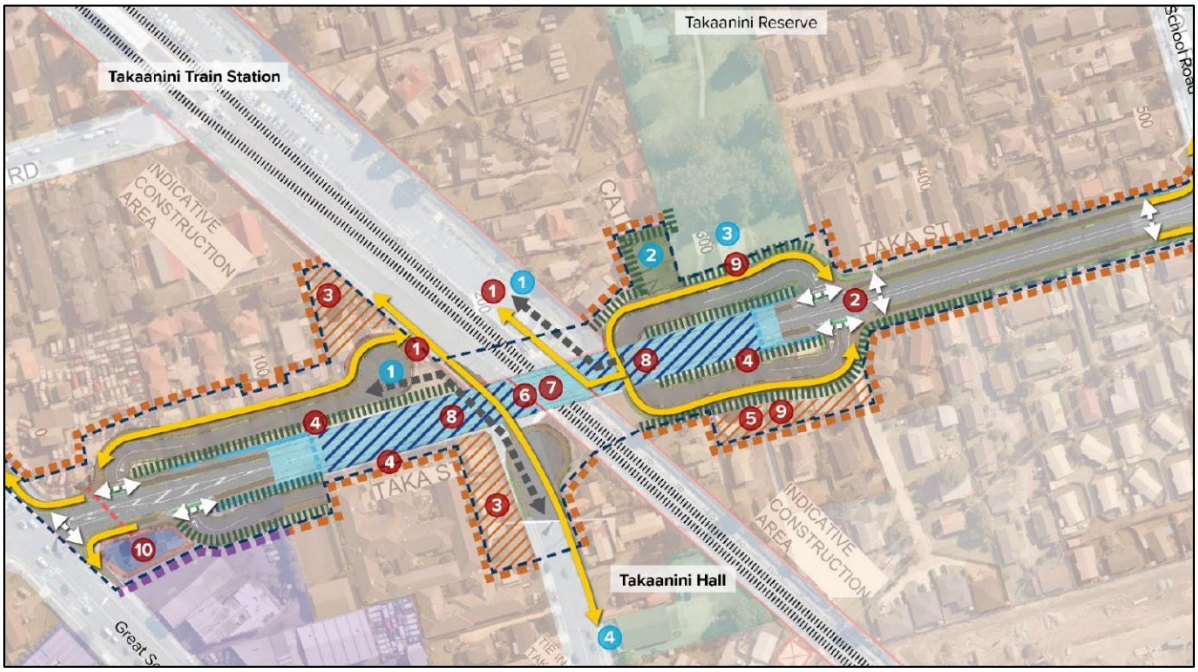

Figure 4: Opportunities and constraints diagram from Urban Design Evaluation report

Area affected by NoR 1:

4.13. The submitted General Arrangement Plans and Form 18 Plans show that about 1400m^2 of land will be taken from Takaanini Reserve – the current area of this reserve is 1.592Ha (12% land take). This is required to make space for a new traffic bridge and revised access areas for private properties. The Urban Design Evaluation shows that there are opportunities for new landscaping along the new road frontage of the reserve. Figure 4 provides a visual explanation.

19R and 40R Walters Road

Description:

4.14. These reserves are shown on Figure 5 and are affected by NoR 2 only. 19R is known as Walters Accessway and, for the purposes of this document, 40R will be referred to as 'Arion Reserve'. Walters Accessway is a narrow sliver of land that runs parallel to the NIMT, linking to Tironui Station Road West to the south. Arion Reserve is an irregularly shaped parcel of land located at the intersection of Arion and Walters Road. These parcels are zoned Open Space - Informal Recreation Zone under the AUP(OP).

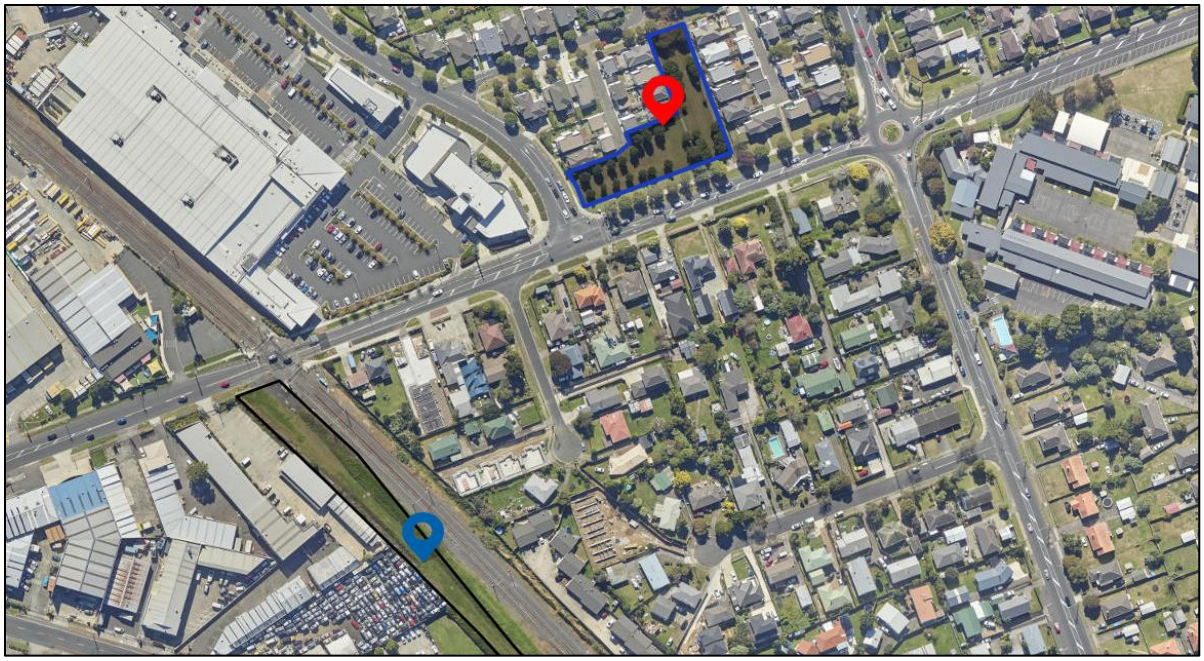

Figure 5: Arion Reserve denoted with a red pin, Walters Accessway with a blue pin.

Reserve features:

4.15. Walters Accessway is devoid of structures and vegetation and consists of mowed grass areas. Some pedestrian infrastructure associated with the existing railway level crossing has been constructed partly in the reserve. Some private landscaping from adjacent private properties has overgrown into the reserve along its western flanks, including a standalone tree about 4-6m tall.

4.16. In terms of Arion Reserve, there are several rows of trees that have been planted to align with the adjacent roads. The land has been shaped to form two 1-1.5m deep swale/stormwater detention areas. These features show as 'Dry Detention Ponds' on the Council GIS database. Arion Reserve opens onto grassed areas associated with Walters Road, where there is a row of trees planted parallel with Walters Road. There are existing pedestrian paths connecting Walters Road and Phar Lap Crescent. The reserve is otherwise devoid of structures.

Community function of the reserves:

4.17. Walters Accessway provides a passive space for the community to access the outdoors or to walk between Tironui Station Road East/West, and the pedestrian railway crossing there, and Tirouni Reserve in the south, through to Walters Road. Arion Reserve provides secondary access for private properties at Phar Lap

Crescent, walking access for pedestrians between Phar Lap Crescent and Walters Road, and public stormwater detention/treatment.

Areas affected by NoR 2:

4.18. The submitted General Arrangement Plans and Form 18 Plans show that about 1900m^2 of land will be taken from Walters Accessway and about 50m^2 from Arion Reserve. This is required to make space for a new traffic bridge, revised access areas for private properties, and to increase the size of the intersection of Arion and Walters Roads. Figure 6 provides a visual explanation and indicates that landscaped edges are a potential opportunity in relation to these reserves.

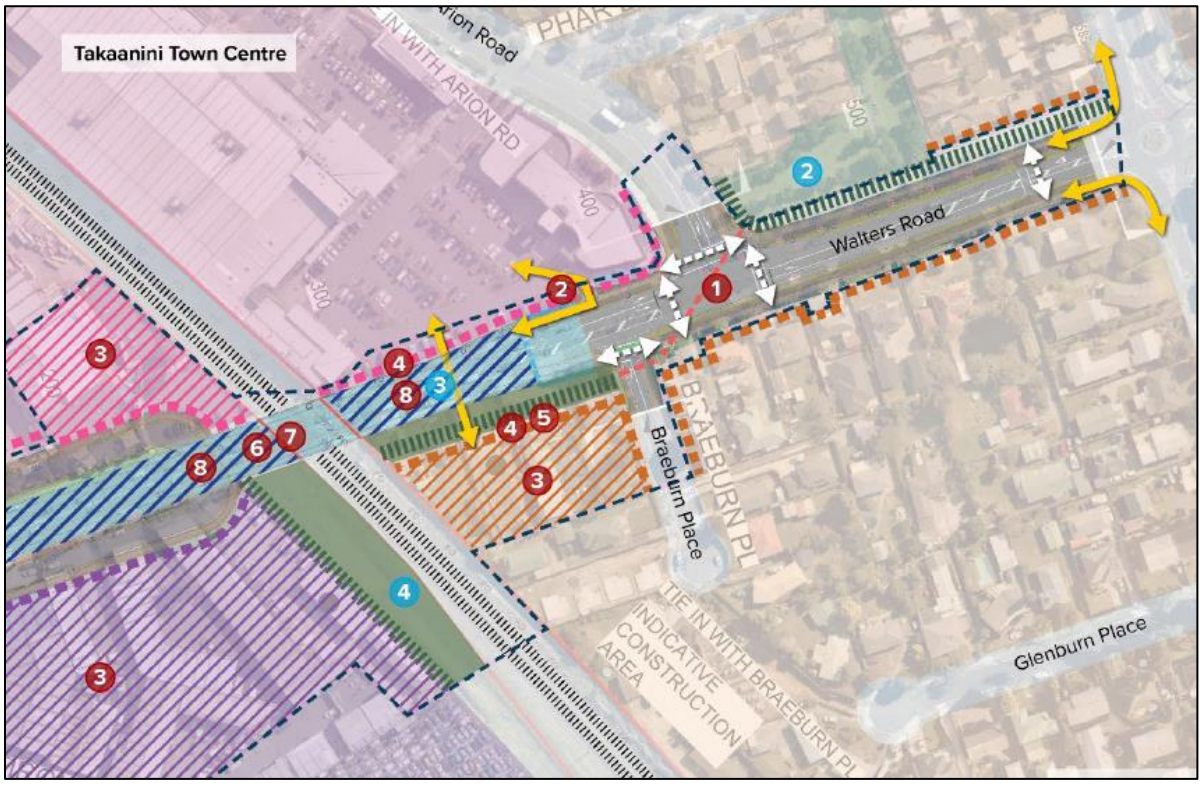

Figure 6: *Opportunities and constraints diagram from Urban Design Evaluation report*

Discussion of direct effects on parks/reserves

Overview

4.19. In general, SGA propose to manage the effects of the proposal by way of management plans – this includes the finalised design and construction of the project. In my opinion, this approach is not unusual for a project of this nature, where the finalised / detailed design plans are not available. I am comfortable with the approach taken in general, noting that this method for managing effects has

been deployed on other projects that I have been involved with in the past for parks planning, such as for Eastern Busway Stages EB2 and EB3R.

4.20. In my opinion, the effects of the designation will have minimal impact on the extant features and functions of Scouts Hall Reserve, Walters Accessway and Arion Reserve. The greatest area of potential effect would arise from changes at Takaanini Reserve, which is discussed below.

Takanini Scout Hall Reserve

4.21. In the case of Takanini Scout Hall Reserve, a small area of land will be taken from an existing gravelled access area by NoR1. There would be no impact on the existing buildings or parking area being utilised by local community groups. The Urban Design Evaluation notes that a landscaped interface opportunity is available along the future interfaces with the entrance strip of the park at Manuroa Road – representing a possible improvement over existing conditions. Based on the improvements in access for pedestrians there might also be future opportunities to provide an improved rear entrance to Takanini Scout Hall Reserve. In my opinion, NoR 1 would have a negligible adverse impact on this reserve and its functions.

Takaanini Reserve

4.22. Takaanini Reserve would have a large area of land taken from its frontage along Taka Street. The land take would necessitate the removal of an existing skateboarding park, potentially the existing basketball court, loss of some concrete paving areas, and the removal several large trees. Of all the open spaces/reserves affected by the NoRs, this represents the greatest area of potential effect in terms of parks and reserves. Figure 7 depicts the indicative interface with the future road bridge at Taka Street in relation to the reserve.

4.23. The Urban Design Evaluation shows the potential for new landscaping opportunities along the park frontage, along the boundaries with residential properties, and adjacent to the future bridge abutments. The LVEA[3] notes that the trees within Takaanini Reserve provide a heightened contribution to local amenity, and by extension internally within the park, due to the scarcity of large trees in the surrounding area. The LVEA explains that their loss would translate to adverse landscape/visual effects during construction, but the effect can be mitigated via

[3] Section 5.1.2 of the LVEA v1

replacement planting. I agree that if trees are lost that these should be mitigated, however the success of the mitigation will rely on the nature of what plants/trees are chosen and their extent. The trees that would be lost are significant in form and scale, and there will be enduring adverse effects on the park whilst the new vegetation establishes. Such effects would be loss of shade for play and passive enjoyment of the park.

4.24. SGA propose to analyse the mitigation requirements as part of the Urban and Landscape Design Management Plan (ULDMP) Condition 12. Additionally, the Tree Management Plan Condition 23 states that replacement trees will be provided for trees lost as a result of the project. In my opinion, the combination of these conditions would provide sufficient safeguards to ensure that the adverse effects from the loss of trees and vegetation from the park are mitigated in the long term. However, there may be short-term to medium-term adverse impacts generated from the loss of mature trees whilst the mitigation planting establishes. I understand that these conditions are also supported by council's arborist[4].

Figure 7: Future bridge at Taka Street. Takaanini Reserve in foreground. Source: AEE.

4.25. The General Arrangement Plans and Urban Design Evaluation show that Takaanini Reserve will be extended to the west (see Figure 4), with about 500m^2 being incorporated into the park, and that connections can be made to Takaanini Railway Station. When accounting for the estimated 1400m^2 of land take along the park's frontage, there would still be a net loss of 900m^2 (7% reduction of park size)

[4] Section 10 of Arboricultural Memorandum by Arborlab

of open space at this location. I support the re-introduction of land given that it would in part mitigate for the land take from Takaanini Reserve by providing land for passive enjoyment and walking. Whilst there will be a net loss of land from Takaanini Reserve, the overall open space function of the reserve would be maintained.

4.26. I note that SGA have not be able to secure or proffer any mitigation for the loss of the skateboard park from Takaanini Reserve. SGA proposed to identify and secure mitigation via the Stakeholder Communication and Engagement Management Plan (SCEMP) Condition 9, which would entail engagement with various stakeholders and community groups. For this reason, I consider that mitigation for the potential effects of NoR have not been appropriately addressed and does not allow for a consideration of the merits of any required mitigation. If mitigation is not identified now, then I recommend that Condition 9 is updated to specifically mention parks outcomes as part of the community and stakeholder engagement. Given that there will be a lengthy construction period, mitigation for the skatepark or any other features lost should be implemented prior to construction works commencing. I make my recommendations regarding Condition 9 in the latter part of this report.

4.27. Notwithstanding, I note that NoR1 would generate future open space opportunities around Manuia and Manuroa Roads, being potential locations where mitigation can be implemented, or additional/future facilities can be provided.

4.28. In summary, the land take for NoR 1would reduce the overall size and range of activities that are offered within the Takaanini Reserve. Mitigation for the loss of the skatepark has not be offered at this time by SGA, and reliance is placed on a management plan conditions to resolve the effects. I support the approach taken by SGA, but changes to the wording of Condition 9 is recommended. Overall, the resulting effects on the part and its functions would be moderate in scale.

Walters Accessway

4.29. As noted earlier, Walters Accessways has no formal uses or features, and functions as a passive space for people to use or walk through to other open spaces, and also to access Tironui Station Road East/West and the pedestrian crossing over the NIMT. The General Layout Plans indicate that there will be no new built features within the space presently occupied by the reserve. The Urban

Design Evaluation indicates that the area would remain as public open space, and that a landscaping opportunity exists along the interface with 15 Walters Road – aligning closely with the existing situation. Based on the submitted plans, the spatial extent and nature of the park would be similar to the current situation following construction. In my opinion, NoR 2 would have a negligible impact on this reserve. Notwithstanding, given that this reserve performs a passive walking function to Tironui Reserve and the pedestrian crossing at Tironui Station Road East/West, I recommend that the final design does not preclude the future provision of a formalised walking or cycling connection in the future. I make recommendations on ULDMP Condition 12 below.

Arion Reserve

4.30. NoR2 would see a small area of land taken from this open space to allow for the intersection of Arion and Walters Road to be widened. The area of land take is insignificant in my view and would not compromise the overall amenity and functions that are being provided by this reserve. Engineering input is advisable in terms of the stormwater functions of the reserve. The Urban Design Evaluation notes that a landscaped interface opportunity is available along Walters Road, indicating that any amenity impact could be mitigated. In my opinion, NoR 2 would have a low to negligible impact on this reserve and its functions.

Construction/ effects

Overview

4.31. As noted earlier, SGA rely on a raft of management plans to manage effects from the NoRs. Construction of the works has the potential to impact the ability for people to access and enjoy the various parks and reserves within and around the project area. Relevant effects that might arise are likely to be from construction traffic/detours, noise/vibration, visual effects from construction, and the potential for access restrictions to parks. Having reviewed the proposed conditions, it is my opinion that the management plans are an appropriate means to manage effects on the various parks and open spaces.

4.32. To ensure that the community continues to have access to the various public open spaces and reserves, I recommend that Condition 14 and 18 are be updated to contain specific wording to consider and provide for on-going access to parks and reserves where this is possible.

4.33. As noted above, construction works will occur over a lengthy period of time and mitigation for any parks/reserves facilities are recommended be secured ahead of this works commencing to ensure that adverse effects are avoided and mitigated – I set out my recommendations for Condition 9 in the following sections.

4.34. I note that SGA have not indicated what parts of the designation are temporary and which parts are permanent. In the case of Takaanini Reserve, all parts of the designation appear to be permanent, except for the additional 500m^2 that has been indicated in the Urban Design Evaluation as being suitable for the extension of the park.

Operational effects

Takanini Scout Hall Reserve & Arion Reserve

4.35. In my opinion, there would be minimal on-going and operational related effects on these open spaces. The amenity they provide, and the overall form, layout, and function of Takanini Scout Hall Reserve and Arion Reserve would be similar to the current situation.

Takaanini Reserve and Walters Accessway

4.36. The LVEA[5] notes that the proposed bridges/infrastructure has the potential to generate overshadowing and visual dominance effects on these reserves.

4.37. In terms of the Takaanini Reserve, the future road bridge is to the south of the reserve, so shading effects would be negligible. In my opinion, whilst shading effects may be generated over Walters Accessway from a new bridge, when considering its function as a passive walking connection, such effects would not compromise the reserve's function. Any shading would be experienced by users in a transient way.

4.38. I agree that there will be some visual dominance effects generated on both the Takaanini Reserve and Walters Accessway from the sheer size and scale of the proposed bridges and their abutments. Additionally, the Urban Design Evaluation[6] and in the AEE note that a review of the future undercroft spaces beneath the

[5] Section 5.2.3.5 and 5.2.3.6 of LVEA v1
[6] Section 8.3 and 9.3 of UDE report v1

bridges could attract anti-social behaviour or generate safety effect. Given the reserves are directly adjacent to the undercroft spaces, I think that Crime Prevention Through Environmental Design (CPTED) principles need to be taken into account in the final design. I recommend that comments from an urban design specialist are obtained in this regard.

4.39. Notwithstanding, SGA propose to review and mitigate effects that might be generated in these regards via the ULDMP Condition 12. This would include a review of how to visually manage the bridges and their abutments and to implement CPTED principles. In my opinion, this approach is reasonable and can take into account the specific design constraints and environmental factors present in the area around the parks at the time.

Alignment with Alignment Greenway and Open Space Plans

4.40. In this section, I discuss relevant planning policy documents that are relevant in terms of parks and opens spaces:

Papakura Urban Ngahere (Forest) Action Plan 2022 (PUFAP)

4.41. The PUFAP aims to strategically increase and manage urban forest cover in Papakura to give effect to the Auckland Council's Urban Ngahere (Forest) Strategy. Its key objectives include enhancing the urban canopy to improve ecological resilience, air quality, and biodiversity, while also addressing climate change impacts. The PUFAP indicates that there are opportunities for tree planting within Takaanini Reserve.

4.42. The loss of trees from Takanini Reserve would, in my opinion, be contrary to the objectives of the PUFAP in so much as it would see the loss of several large and prominent trees from the park. That said, SGA propose to undertake replacement planting in accordance with Auckland Council's Urban Ngahere (Forest) Strategy under Condition 12. I recommend that Condition 12 is updated to specifically reference the PUFAP. On this basis, the proposal accords with the PUFAP.

Papakura Greenways Plan 2016 ('PGP')

4.43. The PGP was prepared and adopted by Auckland Council and the Papakura Local Board. It sets out a vision for developing a network of greenways in the Papakura Local Board area – which includes the project areas. The PGP emphasizes creating safe and pleasant walking and cycling connections, that enhance local ecology and access to recreational opportunities. Key aspects include connecting parks,

town centres, and transport hubs, improving health and environmental quality, and enhancing community engagement. The plan also highlights the integration of greenways into broader transportation and ecological networks, aiming to make Papakura more liveable, connected, and sustainable.

4.44. The PGP indicates 'Proposed greenway routes' within the project area, such as along Station and Maru Roads, adjacent to and following the existing NIMT, and along Walters Road. Figure 8 below is extracted from the PGP showing the area affected by the NoRs.

Figure 8: Excerpt from PGP showing proposed and future greenway connections.

4.45. The future road and pedestrian bridges over the NIMT that would be created by the NoRs would differ from the locations indicated in the PGP (for example, there is no crossing provided at Station / Maru Road). However, the NoRs do, in my view, align with the objectives and aspirations of the PGP because the future road bridges include dedicated walking and cycling connections over them, and there are additional pedestrian crossing points proposed at Manuroa Road and Spartan Road. These bridges will create previously non-existent options for greenways and active-mode connections within Takanini.

4.46. For these reasons, and in my opinion, the proposal accords with the PGP.

Papakura Open Space Network Plan 2019 ('POSNP')

4.47. The POSNP was prepared and adopted by Auckland Council and the Papakura Local Board. The POSNP sets out a framework for enhancing open spaces in the Papakura area, including Takanini and the project area. Key objectives of the plan include improving connections between parks, enhancing recreational and ecological quality, and ensuring the network supports the community's needs amidst significant growth – noting that growth is enabled under the Auckland Unitary Plan (operative in part). It also acknowledges challenges such as integrating new spaces with existing ones and addressing the impacts of urban development on natural habitats and biodiversity.

4.48. A matter of note is that the POSNP identifies that there is a 'gap' within the open space network for 'neighbourhood parks' around Takanini. The POSNP includes a diagram explaining this gap – see Figure 9 below. The POSNP explains that 'neighbourhood parks'[7] are usually around 0.3 – 0.5 Hectares in size. This gap initially suggests that the loss of open space land from Takaanini Reserve could worsen the situation.

4.49. The General Arrangement Plans and the Urban Design Evaluation indicate that new opportunities for small open spaces around Manuia Road and Manuroa Road would be created. Based on the indicative sizes, the opportunities would likely be categorised as 'pocket parks'[8]. In my opinion, the creation of new pocket parks under NoR 1 would likely assist in alleviating the apparent gap in the open space

[7] Same definition under Open Space Provision Policy 2016
[8] See definition under Open Space Provision Policy 2016

network for Takanini. SGA, in conjunction with Auckland Council Community Facilities, might also consider modifying their proposal to secure a larger combined open space area within Takanini, rather than the pocket parks as a way of ensuring positive effects and helping to address the gap in neighbourhood parks.

4.50. The loss of space from the Takaanini Reserve is particularly noteworthy, since it is one of only a few such parks for the area. In my view, the 1400m^2 lost from the current park extent would be partly mitigated in situ by the take of 500m^2 of existing adjacent private land. There would be a net loss of 900m^2 of park land. Given the overall function of Takaanini Reserve would be retained, the balance of effects would be mitigated by the creation of the pocket parks and the mitigation that will be identified and delivered under Condition 9.

4.51. The POSNP sets out a range of 'High, 'Medium' and 'Low' priority areas in terms of open spaces which set out broad directions for council focus over the next 10 years. I note that are no specific priorities that affect open spaces in the project area.

4.52. Condition 9 of the NoRs requires stakeholder engagement, which would include Auckland Council and the Papakura Local Board to allow for consideration of the POSNP in greater detail when making decisions on what mitigation is required for the loss of the skatepark from Takaanini Reserve.

4.53. For these reasons, and in my opinion, the proposal accords with the POSNP.

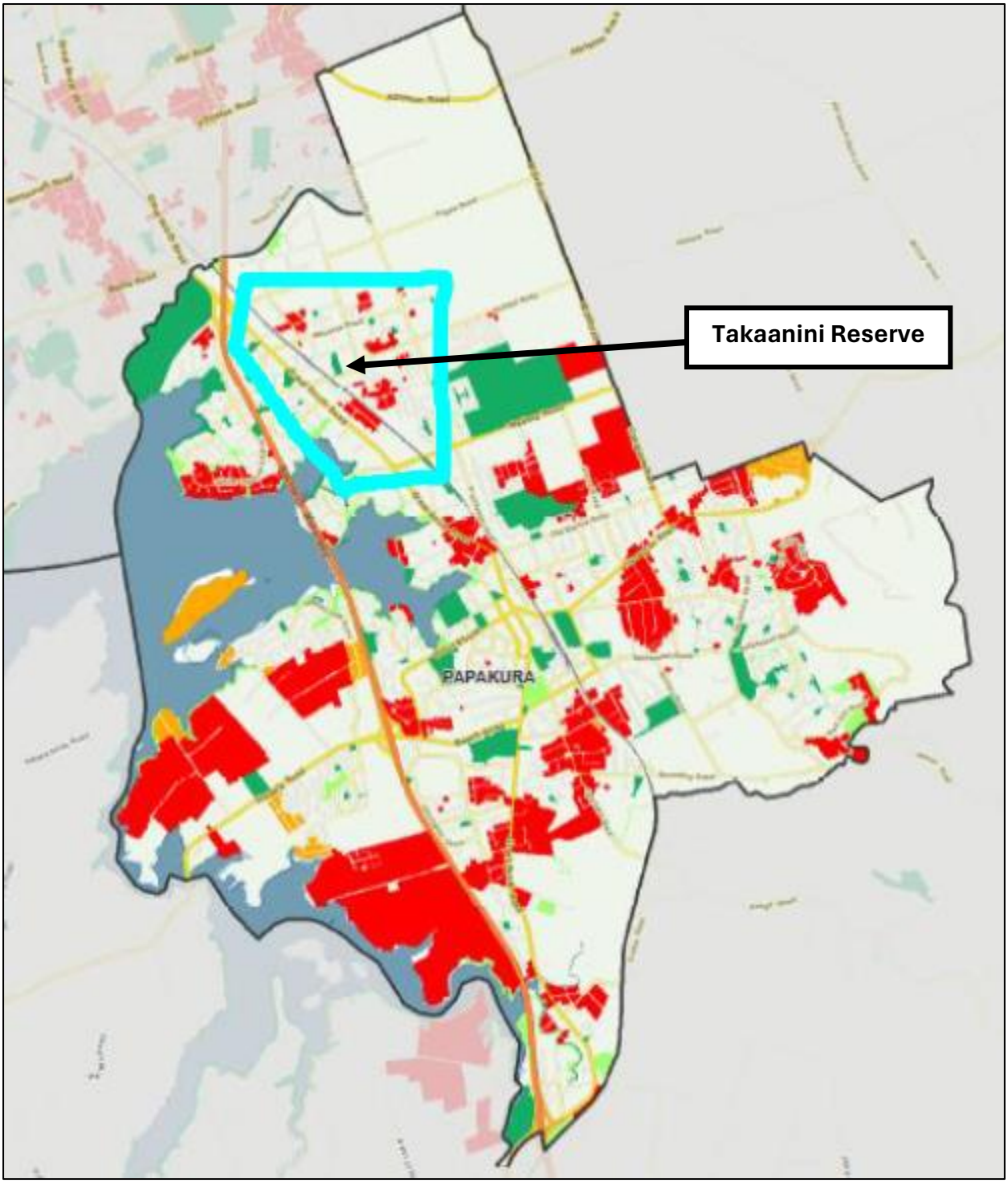

Figure 9: Excerpt from POSNP indicating a gap in neighbourhood parks in Takanini. Aqua outline inserted to show the approximate project area.

5. Submissions

5.1. In this section, I review and respond to the submissions on the NoRs. Table 2 and 3 set out my assessment. I also summarise the submissions below:

5.1.1. Auckland Council Parks and Community Facilities (submitter NoR 1 #43 / NoR 2 #14): The submitter is the asset owner of the affected reserves. The submitter opposes both NoRs that affect its properties and has raised various issues related to the loss of public open space, park land, and assets.

5.1.2. Takanini Village Limited and Tonea Properties (NZ) Limited (NoR 1 #37 / NoR 2 #17), Sunlight Holdings Limited and South Auckland Marine Limited (NoR 1 #38 / NoR 2 #18), Mead Trusts Holdings Limited and Carters Buildings Supplies Limited (NoR 1 #39 / NoR 2 #19), and Arborfield Trust, Takanini Home and Trade Limited and Mitre 10 Mega Takanini Limited (NoR 1 #40 / NoR 2 #20): These submissions raise common areas of concern and oppose both NoRs. Their properties are located in the vicinity of Walters Road and their primary areas of concern include the potential adverse effects on access and operation of their businesses, especially regarding traffic safety, parking, and accessibility during and after construction. The submitters are critical of the options analysis presented by SGA, and make reference to the loss of existing open space amenities for the community at a broad level, citing Takanini Reserve as an example. They point to potential CPTED concerns in terms of the undercroft spaces below the future bridges.

5.1.3. Jayanta Bhaduri and Sudarshana Bhaduri (NoR 2 #13). This submitter raises a variety of points and concerns, and in particular to parks planning, the loss of trees and vegetation as a result of NoR 2.

Table 2: Submissions review and assessment NoR 1

NoR 1 - Takanini Level Crossings: Spartan Road, Manuia Road, Manuroa Road, Taka Street				
Submission Number	**Submitter Name**	**Issue**	**Relief Sought**	**Technical Assessment**
34	Auckland Council – Bianka Griffiths	Adverse effects on physical assets within 24R Taka Street / Takaanini Reserve	Avoid direct and indirect effects on the reserve. If the land take cannot be avoided, then this must remedied or mitigated by providing the same or more open space nearby and in a 'strategic location'.	I have discussed the effects on Takaanini Reserve in the foregoing sections of my report and this submission does not raise any new matters. I share the submitter's view in general that mitigation for the loss of the skatepark in Takaanini Reserve (or any of the open spaces) needs to involve engagement with various stakeholders to ensure that the selected mitigation meets the needs of the community. Adverse effects in the loss of amenity facilities and loss of land has not been addressed.
34	Auckland Council – Bianka Griffiths	Adverse effects on 2R Challen Close	Avoid direct and indirect effects on the reserve.	The land referred to is a local park on the western side of Great South Road. NoR 1 does not extend onto this open space and any future physical features associated with the NoR would be remote from the park. In my view, there would be no direct effects on the park. Indirect effects can be managed by way of SGAs management plans. 
34	Auckland Council – Bianka Griffiths	Adverse effects on 8 Takanini Road	Avoid direct and indirect effects on the reserve.	The land referred to is a reserve containing a community hall. NoR 1 does not extend onto this open space and any future physical features associated with the NoR would be remote from the park. In my view, there would be no direct effects on the park. Indirect effects can be managed by way of SGAs management plans. Whilst Takanini Road would become a cul-de-sac road, this change in access arrangement would not adversely restrict community access to the hall following construction. 

Submission Number	Submitter Name	Issue	Relief Sought	Technical Assessment
34	Auckland Council – Bianka Griffiths	Adverse effects on 103R Manuroa Road	Avoid direct and indirect effects on the reserve.	The land referred to is a neighbourhood park containing a two jungle-gyms and a basketball hoop. NoR 1 is remote from this park and, for this reason, there would be no direct or indirect effects on this open space. 
34	Auckland Council – Bianka Griffiths	Adverse effects on 12 Challen Close	Avoid direct and indirect effects on the reserve.	The land referred to is a council-owned elderly housing facility containing three buildings. The land is not being used for public open space and for this reason there would be no adverse effects generated in that regard. 
34	Auckland Council – Bianka Griffiths	Adverse effects on 16R Reding Street	Avoid direct and indirect effects on the reserve.	The land referred to is a neighbourhood park that is currently vacant. NoR 1 is remote from this park and, for this reason, there would be no direct or indirect effects on this open space.

Submission Number	Submitter Name	Issue	Relief Sought	Technical Assessment
				
34	Auckland Council – Bianka Griffiths	Adverse effects on 2 Popes Road	Avoid direct and indirect effects on the reserve.	The land referred to is a large parcel of land owned by Auckland Council. The parcel has a split zoning as Business - Light Industry Zone and Open Space - Informal Recreation Zone. NoR 1 is remote from this park and, for this reason, there would be no direct or indirect effects on this open space. 
34	Auckland Council – Bianka Griffiths	Adverse effects on 20W Challen Close	Avoid direct and indirect effects on the reserve.	The land referred to is a road-to-road walkway between Challen Close and Balgowan Terrace. NoR 1 is remote from this park and, for this reason, there would be no direct or indirect effects on this open space.

Submission Number	Submitter Name	Issue	Relief Sought	Technical Assessment
				
34	Auckland Council – Bianka Griffiths	Adverse effects on 354F Porchester Road	Avoid direct and indirect effects on the reserve.	The land referred to formed part of a series of parcels associated with a stormwater drainage area. NoR 1 is remote from this park and, for this reason, there would be no direct or indirect effects on this open space. 
34	Auckland Council – Bianka Griffiths	Adverse effects on 35R Spartan Road	Avoid direct and indirect effects on the reserve.	The land referred to is stormwater drainage pond located at the corner of Oakleigh Avenue and Spartan Road. NoR 1 does not extend onto this open space and there are no works directly adjacent to the park. The changes in the configuration of Manuia Road and Spartan Road may affect the way in which the reserve is accessed but, given the drainage function of the land, it is my opinion that NoR 1 would not impact the open space function or amenity of this reserve. If the reserve is to be used for drainage of future impervious areas associated with NoR 1 then I would recommend that engineering advise is sought. If the size of the drainage area is to be increased as a result of the proposal it would have negligible impact on the availability of recreation space in the area given the current site layout.

Submission Number	Submitter Name	Issue	Relief Sought	Technical Assessment
				
34	Auckland Council – Bianka Griffiths	Adverse effects on 48R Rangi Road	Avoid direct and indirect effects on the reserve.	The land referred to is a neighbour park that is currently vacant. NoR 1 is remote from this park and, for this reason, there would be no direct or indirect effects on this open space. 
34	Auckland Council – Bianka Griffiths	Adverse effects on 50R Rangi Road	Avoid direct and indirect effects on the reserve.	The land referred to is a drainage reserve that is being used for stormwater detention and treatment. NoR 1 is remote from this park and, for this reason, there would be no direct or indirect effects on this open space.

Submission Number	Submitter Name	Issue	Relief Sought	Technical Assessment
				
34	Auckland Council – Bianka Griffiths	Adverse effects on 8 Takanini Road	Avoid direct and indirect effects on the reserve.	This submission point appears to be a double up and has been assessed at point 34.3.
34	Auckland Council – Bianka Griffiths	Adverse effects on 8R Scotts Field Drive	Avoid direct and indirect effects on the reserve.	The land referred to is a drainage reserve that is being used for stormwater detention and treatment. NoR 1 does not extend onto this open space and there are no works directly adjacent to the park. The changes in the configuration of Manuia Road and Spartan Road may affect the way in which the reserve is accessed but, given the drainage function of the land, it is my opinion that NoR 1 would not impact the open space function or amenity of this reserve. If the reserve is to be used for drainage of future impervious areas associated with NoR 1 then I would recommend that engineering advise is sought. 
37	Takanini Village Limited and Tonea Properties (NZ) Limited	Adverse effects on 30 Walters Road – insufficient options considered to avoid adverse effects on private land, but also public open spaces.	Avoid or minimise land take from private land. Consider providing an underpass instead of bridges. Explore other options.	These submission points make reference to the options assessment at Appendix A of the AEE. The submitters express their views that the options analysis is not sufficient and will, among other things, result in adverse effects on parks and reserves in the area – pointing to Takaanini Reserve as an example. I agree that the NoRs would interface with and have adverse effects on various parks, however it is outside of my area of expertise to comment on the adequacy of the options analysis – this being more suited to the processing planner, taking into account the various competing factors. SGA propose to manage any resulting effects of the NoR via management plans, which I am supportive of. If the size of the drainage area is to be increased as a result of the proposal it would have negligible impact on the availability of recreation space in the area given the current site layout.
38	Sunlight Holdings Limited and South Auckland Marine Limited	Adverse effects on 1-3 Walters Road – insufficient options considered to avoid adverse effects on private land, but also public open spaces.	Avoid or minimise land take from private land. Consider providing an underpass instead of bridges. Explore other options.	
39	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited	Adverse effects on 12 Walters Road – insufficient options considered to	Avoid or minimise land take from private land. Consider providing an	

Submission Number	Submitter Name	Issue	Relief Sought	Technical Assessment
		avoid adverse effects on private land, but also public open spaces.	underpass instead of bridges. Explore other options.	
40	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.	Adverse effects on 20A Walters Road and 230 Great South Road – insufficient options considered to avoid adverse effects on private land, but also public open spaces.	Avoid or minimise land take from private land. Consider providing an underpass instead of bridges. Explore other options.	

Table 3: Submissions review and assessment NoR 2

NoR 2 - Takanini Level Crossings: Walters Road				
Submission Number	**Submitter Name**	**Issue**	**Relief Sought**	**Technical Assessment**
13	Jayanta Bhaduri and Sudarshana Bhaduri	Loss of vegetation such as in Arion Road.	Withdraw the proposal.	I have discussed the effects on Arion Reserve in the foregoing sections of this assessment. In my opinion, whilst there will be some loss of trees from Arion Reserve, SGA have indicated that there are options available for a landscaping response along Walters Road and Arion Road to replace any trees or vegetation lost. In my opinion, this would be adequately addressed by way of the ULDMP condition.
14	Auckland Council – Bianka Griffiths	Adverse effects on 40R Walters Road from loss of land.	If the land take cannot be avoided, then this must remedied or mitigated by providing the same or more open space nearby and in a 'strategic location'.	I have discussed the effects on Walters Accessway in the foregoing sections of this assessment. In my opinion, Walters Accessway provides limited function and value as an open space. SGA have indicated that there are opportunities for landscaping improvements within Walters Accessway, which would likely represent an improvement over the current conditions. In my opinion, this would be adequately addressed by way of the ULDMP condition, with an update to wording.
17	Takanini Village Limited and Tonea Properties (NZ) Limited	Adverse effects on 30 Walters Road – insufficient options considered to avoid adverse effects on private land, but also public open spaces.	Avoid or minimise land take from private land. Consider providing an underpass instead of bridges. Explore other options.	This submission is the same as 37 - addressed above.
18	Sunlight Holdings Limited and South Auckland Marine Limited	Adverse effects on 1-3 Walters Road – insufficient options considered to avoid adverse effects on private land, but also public open spaces.	Avoid or minimise land take from private land. Consider providing an underpass instead of bridges. Explore other options.	This submission is the same as 38 - addressed above.
19	Mead Trusts Holdings Limited and Carters Buildings Supplies Limited	Adverse effects on 12 Walters Road – insufficient options considered to avoid adverse effects on private land, but also public open spaces.	Avoid or minimise land take from private land. Consider providing an underpass instead of bridges. Explore other options.	This submission is the same as 39 - addressed above.
20	Arborfield Trust, Takanini Home and Trade Limited, and Mitre 10 Mega Takanini Limited.	Adverse effects on 20A Walters Road and 230 Great South Road – insufficient options considered to avoid adverse effects on private land, but also public open spaces.	Avoid or minimise land take from private land. Consider providing an underpass instead of bridges. Explore other options.	This submission is the same as 40 - addressed above.

6. Comment on SGA Proposed Conditions

6.1. Overall, I generally support the conditions offered by SGA. I have recommended various changes throughout this assessment which are consolidated into Table 4 with insertions shown with **bold underline** and deletions shown in ~~**bold strikethrough**~~.

6.2. I have reviewed the social impact report by Rebecca Foy and agree with the proposed revised SCEMP Condition 9. Ms Foy recommends that a Development Response Management Plan is introduced to the conditions, including a clause 6.18(a)(v)[9] which provides for realisation of mitigation for impacts on parks and open spaces.

6.3. By way of summary, I recommend these proposed changes to:

6.3.1. Ensure that there is ongoing access provided to parks

6.3.2. Specific consideration of the mitigation requirements for the loss of community facilities and open space within the project area of the NoRs

6.3.3. ensure that the mitigation for facilities lost from Takaanini Reserve, being the skatepark, and potentially the basketball court, are implemented prior to the works commencing so that the community has access to the same or better facilities during construction.

6.3.4. allow Auckland Council to continue basic operation of the parks leading up to construction.

6.3.5. ensure that replacement planting aligns with area-specific urban forest aspirations.

6.4. I am agreeable to changes in wording to align with other areas of expertise or to incorporate similar / further changes to the condition that would give effect to the same outcome.

[9] Of the s42A report by Ms Foy

Table 4: Changes to Conditions

NoR No.	No.	Condition
NoRs 1 and 2	6	**Network Utility Operators <u>and Parks</u> (Section 176 Approval)** a) Prior to the start of Construction Works, Network Utility Operators and with existing infrastructure located within the designation will not require written consent under section 176 of the RMA for the following activities: i. operation, maintenance and urgent repair works; ii. minor renewal works to existing network utilities necessary for the on-going provision or security of supply of network utility operations; iii. minor works such as new service connections; and iv. the upgrade and replacement of existing network utilities in the same location with the same or similar effects as the existing utility. **b) <u>Prior to the start of Construction Works, Auckland Council will not require written consent under section 176 of the RMA to carry out minor upgrading of existing features and facilities within parks/reserves affected by the designation.</u>** c) To the extent that a record of written approval is required for the activities listed above, this condition shall constitute written approval.
NoRs 1 and 2	9	**Stakeholder Communication and Engagement Management Plan (SCEMP)** As per changes at section 6.18 of s42A memo by Rebecca Foy.
NoRs 1 and 2	12	**Urban and Landscape Design Management Plan (ULDMP)** a) (a) A ULDMP shall be prepared prior to the Start of Construction for a Stage of Work. b) The objective of the ULDMP(s) is to: v. Enable integration of the Project's permanent works into the surrounding landscape and urban context; and vi. Ensure that the Project manages potential adverse landscape and visual effects as far as practicable and contributes to a quality urban environment. c) Mana Whenua shall be invited to participate in the development of the ULDMP(s) to provide input into relevant cultural landscape and design matters including how desired outcomes for management of potential effects on cultural sites, landscapes and values identified and discussed in accordance with the Cultural Advisory Report (Condition 10) and/or through the Mana Whenua Kaitiaki Forum (Condition 11) may be reflected in the ULDMP. d) Key stakeholders identified through Condition 9(b)(i)B shall be invited to participate in the development of the ULDMP at least six (6) months prior to the start of detailed design for a Stage of Work. e) The ULDMP shall be prepared in general accordance with: i. Auckland Transport's Urban Roads and Streets Design Guide; ii. Waka Kotahi Urban Design Guidelines: Bridging the Gap (2013) or any subsequent updated version;

		iii. Waka Kotahi Landscape Guidelines (2013) or any subsequent updated version; iv. Waka Kotahi P39 Standard Specification for Highway Landscape Treatments (2013) or any subsequent updated version; and v. Auckland's Urban Ngahere (Forest) Strategy **and the Papakura Urban Ngahere (Forest) Action Plan 2022** or any subsequent updated version**(s)**. f) To achieve the objective, the ULDMP(s) shall provide details of how the project: i. Is designed to integrate with the adjacent urban (or proposed urban) and landscape context, including the surrounding existing or proposed topography, urban environment (i.e. centres and density of built form), natural environment, landscape character and open space zones; ii. Provides appropriate walking and cycling connectivity to, and interfaces with, existing or proposed adjacent land uses, public transport infrastructure and walking and cycling connections; iii. Promotes inclusive access (where appropriate); and iv. Promotes a sense of personal safety by aligning with best practice guidelines, such as: a. Crime Prevention Through Environmental Design (CPTED) b. principles; c. Safety in Design (SID) requirements; and d. Maintenance in Design (MID) requirements and antivandalism/ e. anti-graffiti measures; and v. has responded to matters identified through the Land Use Integration Process (Condition 3) g) The ULDMP(s) shall include: i. A concept plan – which depicts the overall landscape and urban design concept, and explain the rationale for the landscape and urban design proposals; ii. Developed design concepts, including principles for walking and cycling facilities and public transport; and iii. Landscape and urban design details – that cover the following: a. Road design – elements such as intersection form, carriageway gradient and associated earthworks contouring including cut and fill batters and the interface with adjacent land uses and existing roads (including slip lanes), benching, spoil disposal sites, median width and treatment, roadside width and treatment; b. Roadside elements – such as lighting, fencing, wayfinding and signage; c. architectural and landscape treatment of all major structures, including bridges and retaining walls; d. Architectural and landscape treatment of noise barriers; e. Landscape treatment of permanent stormwater control wetlands and swales;

		f. Integration of passenger transport; g. Pedestrian and cycle facilities including paths, road crossings and dedicated pedestrian/ cycle bridges or underpasses. **The design must also take into account, and not preclude, future walking and cycling connections such as between Takaanini Reserve and the Takaanini Railway Station, and between Walters Road and Tironui Station Road East/West**; h. Re-instatement of construction and site compound areas, driveways, accessways and fences. **i. <u>Re-instatement of and enhancement of parks and open space in liaison with stakeholders.</u>** h) (continues)
NoRs 1 and 2	14	**Existing property access** Prior to submission of the Outline Plan, consultation shall be undertaken with landowners whose vehicle access to their property will be altered by the project**<u>, and with Auckland Council Community Facilities for any parks or reserves that will have access restricted</u>**. The Outline Plan shall demonstrate how safe reconfigured or alternate access will be provided, unless otherwise agreed with the landowner.
NoRs 1 and 2	18	**Construction Traffic Management Plan (CTMP)** a) A CTMP shall be prepared prior to the Start of Construction for a Stage of Work. The objective of the CTMP is to avoid, remedy or mitigate, as far as practicable, adverse construction traffic effects. To achieve this objective, the CTMP shall include: i. methods to manage the effects of temporary traffic management activities on traffic; ii. measures to ensure the safety of all transport users; iii. the estimated numbers, frequencies, routes and timing of traffic movements, including any specific non-working or non-movement hours to manage vehicular and pedestrian traffic near schools or to manage traffic congestion; iv. site access routes and access points for heavy vehicles, the size and location of parking areas for plant, construction vehicles and the vehicles of workers and visitors; v. identification of detour routes and other methods to ensure the safe management and maintenance of traffic flows, including pedestrians and cyclists; vi. methods to maintain access to property**<u>, parks and reserves</u>**, and/or private roads where practicable, or to provide alternative access arrangements when it will not be; vii. (continues)

Recommendations

6.5. In summary:

6.5.1. I support the proposal by SGA to designate land in Takanini for NoR 1 and NoR 2 from a parks planning perspective.

6.5.2. I support the proposed management plans for managing adverse effects on the parks and open spaces, even though there are some uncertainties with mitigation. The changes noted above would provide for consideration of mitigation prior to submission of any Outline Plan of Works application with relevant stakeholders.

6.5.3. NoR 1 would likely create additional open space opportunities within Takaanini, helping to addressing the shortfall identified in the POSNP, and in part assisting to mitigate the loss of facilities and space from Takaanini Reserve.

Prepared by:

Andrew David Miller
Planner – CoLab Planning Limited

7 March 2024

Reviewed by:

Lea van Heerden
Senior Parks Planner

7 March 2024

Memo: Technical specialist report to contribute towards Council's section 42A hearing report

05 March 2024

To: Joy La Nauze, Senior Policy Planner, Central/South Planning Team, Auckland Council

From: Rebecca Foy, Director, Formative Limited

Subject: Takaanini Level Crossings NoR 1 and NoR 2 Social Impact Assessment

1.0 Introduction

1.1 My name is Rebecca Anne Foy. I am a Director of Formative, an independent consultancy that has operated for two years, specialising in social, economic, and urban form issues. I have a Master of Arts degree from the University of Auckland in Human Geography. Prior to founding Formative, I worked at Market Economics for twenty years, progressing from an analyst to an Associate Director over that period. In total I have 23 years' consulting and project experience working for commercial and public sector clients.

1.2 I have the following professional memberships: New Zealand Association for Impact Assessment, International Association of Impact Assessment, and the New Zealand Resource Management Law Association.

1.3 I have recently conducted social impact assessments for a range of NZ projects covering topics such as: greenfield land development of highly productive soils, Rotorua contracted emergency housing, planning responses to coastal hazards and tsunami in Christchurch, residential intensification policies in the Christchurch context, natural hazards planning responses in Queenstown, Let's Get Wellington Moving transport infrastructure and the redevelopment potential of publicly owned sites in Auckland.

1.4 For this project, I have assessed the likely social effects of the proposed NoRs related to the Takaanini Crossings project.

This has included reviewing the following documents:

- Te Tupu Ngātahi Supporting Growth, October 2023. Takaanini Level Crossings Assessment of Effects on the Environment, Version 1.0.
- Te Tupu Ngātahi Supporting Growth, October 2023. Takaanini Level Crossings Social Impact Assessment, Version 1.0.
- Te Tupu Ngātahi Supporting Growth, October 2023. Takaanini Level Crossings Assessment of Transport Effects, Version 1.0.
- Te Tupu Ngātahi TLC1 – response to s92 request 10 November 2023
- Te Tupu Ngātahi TLC2 – response to s92 request 10 November 2023
- Te Tupu Ngātahi TLC – response to s92 request – Attachment C – Updated Social Impact Assessment – Appendix D November 2023
- Te Tupu Ngātahi TLC – response to s92 request – Attachment C – Updated Social Impact Assessment – Appendix E – Impact Assessment 10 November 2023

This has also included attending briefings by Supporting Growth Auckland on 5 April and 13 December 2023. I was also present at the site visit conducted on 19 April 2023.

1.5 This memo is my technical evidence on the Takaanini Crossing NoRs and submissions in relation to social effects.

1.6 I have read the Code of Conduct for Expert Witnesses (contained in the 2023 Practice Note) and agree to comply with it. Except where I state I rely on the evidence and opinions of another person, I confirm that the issues addressed in this statement of evidence are within my area of expertise, and I have not omitted to consider material facts known to me that might alter or detract from my expressed opinions.

2.0 Scope and Structure

2.1 This memo relates to the Takaanini Crossings Notices of Requirement by Auckland Transport, which consists of the construction, operation, maintenance, and upgrade of transport infrastructure including new bridges with general traffic lanes and walking and cycling facilities across the North Island Main Trunk ("NIMT") line, new bridges with walking and cycling facilities across the NIMT line, closure of some existing level crossings, as well as local road connections and associated work for:

- NoR 1 Spartan Road, Manuia Road, Manuroa Road and Taka Street, and
- NoR2 Walters Road.

2.2 This evidence summarises the likely key social effects arising from the proposed transport infrastructure changes, and reviews the technical evidence prepared with respect to social effects. I have responded to those effects where appropriate, and defer to the expertise of noise, planning, transport, and urban design where stated, so that my evidence is brief and there is not significant overlap with other Auckland Council experts.

2.3 The remainder of this memo is structured as follows:

- Section 3.0 describes the key social issues arising from the proposal
- Section 4.0 describes how those social issues are addressed in the applicant's evidence.
- Section 5.0 provides a summary of the social issues that are identified by submitters and provides a response to the issues raised.
- Section 6.0 provides recommendations about changes to the SGA Proposed Conditions, noting that some submitters have presented their recommended changes which I have commented on in Section 5.0.
- Section 7.0 provides my overall recommendations regarding NoR1 and NoR2.

3.0 Summary of key issues

3.1 Table 1 provides a high-level summary of the likely social effects of NoRs 1 and 2 as identified by the applicant/requiring authority, submitters and from my assessment. The applicant's assessment of these social effects is discussed in more detail in Section 4.0. Social impact assessments ("SIA") often describe elements of proposals that are also covered by other experts. However, the point of differentiation is that SIA focus on the likely effects that will be experienced by people. This means that I have not addressed the technical

matters arising from planning, noise, vibration, landscape effects, and traffic effects, and have relied on the relevant experts' opinions except where effects relate to residents, visitors and businesses operating within the wider community.

Table 1: Key Social Impact Issues in Takaanini Crossings NoRs 1 and 2

Notice of Requirement	Key Social Impact Issues
Takaanini Crossings: Spartan Road, Manuia Road, Manuroa Road and Taka Street (NoR1) and Takaanini Crossings: Walters Road (NoR2)	<u>Effects of designation prior to construction</u> i. Some parts of the community may view public investment in major projects as a major positive outcome for the local community and private developer activity may be stimulated as a consequence of public investment. ii. Planning blight occurs in the areas directly affected by, and adjacent to, the designations as there is uncertainty about when construction will commence, and properties are not permitted to redevelop. Redevelopment, including intensification of surrounding properties may be delayed until there is certainty about the design of bridges and transport infrastructure. Some of those properties vacated may remain vacant for long periods of time and may become locations for anti-social behaviour. There can be adverse amenity, character, and sense of place impacts through the loss of key businesses and social infrastructure. iii. There may be some important businesses, community services and facilities that close or relocate before construction starts due to uncertainty which will mean accessing those activities and employment may be harder, costlier, or they may move further away. iv. There are likely to be high levels of stress, uncertainty, fear and frustration with communication and proposed designs by households and businesses in the community, leading to health effects. These effects are likely to be particularly stressful to people seeking to retire or those with illness or disability. v. Property acquisition of homes may lead to a need to relocate away from established places of residence or business locations, leading to a loss of long term social and business connections. <u>Effects of construction</u> vi. Some parts of the community may feel more secure about positive future development opportunities in the surrounding community due to large-scale public investment commencing. vii. The community may feel reassured and positive that navigating the transport network will become safer due to the proposed changes and the presence of more people in the location during construction. viii. Individual and businesses' livelihoods may be improved through provision of more local employment and skills training, an increased customer base from construction workers and procurement opportunities for locally-sourced goods and services. ix. Some homes and businesses can expect to have improved amenity from reductions in noise, traffic, and pollution from idling vehicles being redirected to other locations. x. Increased traffic congestion and disruption to public transport services and pedestrian and cycling routes is likely. Individuals' and businesses' regular movement routines may be changed for extended periods of time and there may be confusion about which routes to take and the length of time it may take to travel to destinations. xi. Reductions to access and parking for residential, commercial, industrial and community activities.

Notice of Requirement	Key Social Impact Issues
	xii. There are likely to be high levels of stress, uncertainty, fear, and frustration with loss of personal property rights, livelihoods, and personal disadvantage from loss of property values or income potential. xiii. Business activity can be disrupted through loss of access, parking, exposure to passing traffic and the amenity effects associated with construction works such as noise, dust, and vibration. This may result in a decline in profits and make some businesses unable to continue to operate. xiv. Increased risk to safety through access issues, poor lighting, changed travel routes and potential anti-social behaviour around worksites. xv. Health effects, including stress, associated with noise, vibration, and dust. Those effects are likely to be more severe for certain segments of the population like children and elderly. xvi. Some community members may feel unsafe due to changes to sightlines, access and having construction workers present in the community who are not locals. xvii. Social disconnection may arise, such as separation of neighbours, which is also likely to affect different segments of the population, for example those who have lived alongside neighbours for a long time or have close relationships with their neighbours to access support. xviii. Communities may function differently due to changing access to local goods and services and employment. xix. There are likely to be negative effects on amenity, everyday enjoyment of spaces, character, and sense of place. <u>Operational effects</u> xx. Development opportunities are activated and investor confidence is boosted once construction is complete and the nature of the new infrastructure is apparent and visible. Property values may increase. xxi. Improved access across a range of travel modes, reliability of travel times, and safer travel opportunities to employment, businesses, education, and community facilities, can lead to reduced stress levels generated by the current unpredictable travel times. This might increase local business activity. xxii. Positive economic effects such as upskilling of the local workforce and improved economic efficiency of businesses reliant on transport networks. xxiii. There may be positive effects on residential and commercial amenity due to the removal of conflict, noise, and idling traffic. xxiv. The built structures may cause ongoing severance and be visually dominant within the urban landscape. xxv. Property values may decrease immediately adjacent to the new structures. xxvi. There may be inconvenient changes to people's daily movement patterns and access to properties and on-street and off-street carparking. xxvii. Pedestrians and cyclists may need to exert more effort to ascend slopes on bridges, and crossing the NIMT may become more difficult for those with mobility issues. xxviii. There could be ongoing adverse amenity effects caused by noise from increased road usage and the effects of lighting, shading, and loss of privacy on neighbouring properties. xxix. There may be a loss of long-term residents and businesses from the immediate area if alternative sites close by are unavailable. xxx. Spaces under the bridges may become unsafe or unpleasant if anti-social behaviour or loitering is enabled.

3.2 The key issues that remain in contention after my review of the applicant's SIA and other supporting documents, including the responses to s92 request are:

- There is an underlying assumption by the applicant that Takaanini will experience residential intensification to capitalise on the Mixed Housing Urban and Terraced Housing and Apartment Building zoning height provisions of three to six storeys in most locations. The SIA looks at the existing situation but acknowledges that there is significant uncertainty about the future built environment. The operational effects are assessed for an environment that reflects a changed higher intensity environment by the Assessment of Environmental Effects ('AEE') and the Assessment of Transport Effects ('ATE'). Those reports do not acknowledge the potential for environments to be a mix of old and new, and therefore do not consider the likely effects on people living in properties during the transitional phase of moving towards a higher intensity environment, though the SIA does acknowledge that existing properties will experience negative effects. That means that within the wider application some of the effects are compared to new buildings which would be designed to minimise some of the adverse effects, rather than looking at the effects on the older style homes that are present. Given the length of the designation, it is likely that some property owners and developers will wait to see what is delivered before commencing property development, and in some cases, people may not be able, or want, to develop their properties. For this reason, in my opinion there is a high level of uncertainty about whether there will be significant change and intensification in the environment by the time that the bridges are constructed.
- There is also an underlying assumption in the application that the positive social effects for the wider community will outweigh the negative social effects that will be experienced directly by properties adjacent and encompassed by the NoRs, despite the SIA highlighting that some of the effects on individual property owners and occupiers will be 'High' and 'Extreme'. Table 2 shows the number of directly affected properties by location for NoRs1 and 2. Table 3-1 in the applicant's SIA shows that in total there are 212 private properties affected and a further 10 publicly owned properties impacted. Approximately 52% of privately owned properties were residential (111), with the majority located in Taka Street (87). A further 47% were commercial properties (100), with high numbers impacted in Walters Road (46), Manuia Road (37) and Spartan Road (10). There was one religious property affected in Taka Street.[1] A key issue is mitigating the adverse effects for individual property owners to ensure that the wider community can experience the positive social impacts while minimising the negative effects for individual property owners. There are more than 7,900 properties within the study area, so the number of impacted properties makes up to approximately 3% of total properties.

[1] Note, the numbers of affected properties contained in Table 8-1 (referenced below) do not add up to the number of properties provided in Table 3-1 of the SIA. An explanation should be provided as to which numbers are the most appropriate to use at the Hearing.

Table 2: Count of Properties Impacted by NoRs[2]

NoR Location	Properties partially impacted	Properties completely impacted
NoR1 - Spartan Road	12	0
NoR1 – Manuia Road	19	22
NoR1 – Manuroa Road	9	3
NoR1 – Taka Street	86	16
NoR 2- Walters Road	47	17
Total	173	58

- There is also an underlying assumption that property owners and occupants are expected to be fairly compensated for loss of property and impacts on the operation of businesses through the Public Works Act ("PWA"). That process is expected by the proponent to be clearly explained in communication with affected property owners and occupiers, and compensation is expected to adequately address the losses to property values and business revenue. I acknowledge that there are established and well tested mechanisms in the PWA to provide compensation for a range of types of loss as a result of public works. However, I understand that the process involved in pursuing such compensation can be time consuming, costly, and potentially intimidating for some affected property or business owners to pursue. That means that involvement in the PWA process can in itself be a negative social effect that can lead to increased levels of stress and anxiety and feelings of dissatisfaction with the outcomes of the system.
- There is also an assumption that the proposed severance of communities by bridges is the best alternative, rather than using undergrounding techniques. The Papakura Local Board has raised concerns in particular about the effects of the bridges on the Takanini Town Centre due to the proposed Walters Road Bridge which will separate the Town Centre from the industrial and training activities that are located on the southern side of the road. Additionally, the Papakura Local Board has also raised concerns about the impacts on accessing goods and services at the Takanini Gateway centre due to the proposed changes at Manuia and Manuroa Roads. These are both important centres within the community that provide locals and visitors with access to goods and services, and changes to the ease with which these businesses can be accessed may cause a decline in profitability and their presence may be lost from the local community as there are very few alternative sites available within the wider area for larger businesses in particular.
- The SIA uses a rating system to classify the social impacts for each element, which is a common approach used in SIAs. Because the weightings are generalised, they do not show the spectrum of social effects that can be experienced differently by individuals at different stages of the project. People respond differently to impacts based on their own experiences and perceptions and appetite for risk/making trade-offs, and for this reason a continuum of impacts can be experienced by individuals where one person may experience significant impacts and another may be much less affected by the same

[2] Te Tupu Ngātahi Supporting Growth, October 2023. Volume 2 Takaanini Level Crossings Assessment of Effects on the Environment, Table 8-1

issue. Applying a generalised weighting can in many cases mask the range of effects experienced.

4.0 Applicant's assessment

4.1 I generally agree that the applicant's SIA has appropriately identified the affected surrounding land uses and community facilities, residential properties and businesses that are likely to be affected at the three different stages of the proposed development: prior to construction, during construction, and in operational terms. The defined social areas of influence are also appropriate.

4.2 The SIA has covered the spectrum of impacts that can be expected to occur and has weighted those using a weighting scale which is a commonly used methodology. In some instances I disagree with the weightings that have been applied and provide my rationale for those opinions below. I have summarised those effects identified in the remaining parts of Section 4.0 using the seven key areas that I typically use to define social impacts: urban form, access and connectivity, livelihoods, health and safety, social cohesion, social equity, and environment.

4.3 In my opinion the following effects identified by the SIA report regarding the pre-construction/planning phase are appropriate. Where I disagree with the weightings applied in terms of the effects, I have described the reasons for my difference of opinion. I have highlighted differences of opinions in each section by underlining my opinion.

Positive impacts

Urban form and livelihoods

- There may be some positive impacts and aspirations that arise from expected future investment in Takaanini, including the provision of more certainty about opportunities for future development around the transport network.

Negative impacts

Urban Form

- As properties are acquired, people may move away from the area, and some businesses will close and potentially be lost to the area if alternative sites cannot be found, reducing opportunities for local employment (if they are not replaced by other businesses), or changing the local economic structure (if they are replaced). High levels of stress may arise once property acquisition commences as it signals that future construction is a likely reality and there may be uncertainty about the likely effects from construction activity or a lack of alternative sites available to relocate to. Residential properties on Walters Road, Taka Street and Manuroa Road will be affected. The loss of locally significant businesses and services is assessed as 'Extreme'. Once the proposed mitigation is provided the consequences of these social effects are likely to have 'significant or major consequences'. The specific businesses that are likely to be affected include:
    a. Businesses that need high visibility and large footprints that are unlikely to find suitable alternative sites
    b. A number of ECE centres (one in Taka Street and two in Walters Road)
    c. Skills Update Training and Education Centre

d. BP Service Station - 102 Great South Road

e. Vehicle and tyre servicing outlets

f. A house moving company

g. Car dealerships,

h. A marine retail and servicing business

i. Food retail services

j. Allied Petroleum on Spartan Road.

k. Halls Group.

I note that this is not an exhaustive list of the businesses that are likely to be affected by the NoRs, and a range of other businesses have made submissions including Z Energy Ltd, businesses on Oakleigh Avenue (#22, #1/24, #3/24, #4/24, #26, #30-34, #37-39), B&F Papers Ltd, DDI Takanini Investments Ltd, NZ Steel, earthworks and drain laying company on Oakleigh Avenue, and Van Den Brink 254 Limited.

Access and Connectivity

- Loss of some of those businesses may mean that locals need to change their daily routines to access goods and services. A range of users is identified for which the impacts are assessed as 'High". Once the proposed mitigation is provided these social effects are likely to have 'significant or major consequences'.

Livelihoods

- There are likely to be perceived impacts to personal and property rights, livelihoods, and experiences of disadvantage arising from property acquisition. This may lead to concern and anxiety about future security. The effect on individuals is assessed as 'High'. Once the proposed mitigation is provided these social effects are likely to have 'significant or major consequences'.
- Business owners may feel that their livelihoods have been impacted. Leaseholders and occupiers of affected properties, as well as their labour force, may also experience uncertainty, stress, and anxiety. There is some inconsistency between the main text of the SIA and Appendix E as to the rating of this impact, the former classifies the impact as 'High" and the latter classifies the impact as 'Moderate' and once mitigation is undertaken there are considered to be low risk social impacts that need to be monitored on an ongoing basis. Properties near Walters Road are expected to be affected by changes in access that may affect lease arrangements. This is assessed as 'Moderate' but once mitigation is undertaken there are considered to be low risk social impacts that need to be monitored on an ongoing basis. In my opinion, the impacts on businesses are likely to be similar to those experienced by residential property owners, because many of the businesses affected are owned by sole traders and that means they are no better equipped than residential property owners in terms of feeling stress and anxiety from future plans being subject to uncertainty, and they may feel greater stress because their financial wellbeing is more inherently at risk. In my opinion this effect is likely to have a 'High' impact.
- The potential loss of employment/livelihood for owners and employees is assessed as 'Extreme' and there is no rating for after mitigation is undertaken. It is assumed that businesses can 'undertake their own planning' after businesses are informed of

planned changes. In my opinion, while that is true, the SIA identifies that there are a number of challenges facing business owners including scarcity of alternative sites, and additional assistance should be offered to all businesses and not simply the ECE providers as suggested in the SIA.

- If locals change their shopping patterns and visit services and businesses in other areas there may be commensurate reductions in commercial activity. This is of particular concern for Walters Road, but is assessed as being 'Moderate' before and after mitigation strategies. In my opinion, the loss of parking and access to key businesses could change shopping behaviours permanently and impact the health of the Town Centre, and this effect is also relevant in relation to the Takanini Gateway centre bounded by Manuia and Manuroa Roads. While some tenant churn is natural in a centre over time, it is important to avoid significant numbers of vacancies in centres as those will affect the health and vibrancy of the centres, and potentially adversely affect the role the centres are able to play for their communities.
- Loss of autonomy of decision making about future of land/businesses for directly affected properties, and especially those that are smaller and reliant on high visibility. This is assessed as 'Moderate' and after mitigation the social impacts are still considered to be moderate. As I have mentioned earlier, in my opinion, the impacts on businesses should have equal importance to the effects on residential properties, and for this reason I believe that the effects should be rated at least 'High'.
- The PWA property acquisition process is identified as likely to cause 'Moderate' negative impacts, and after mitigation the social impacts are still considered to remain moderate. I note there are two rows in Appendix E with slightly different outcomes after mitigation and no clear distinction as to what the differences are. In my opinion, there is likely to be a spectrum of impacts for households and businesses, with some experiencing significant effects due to their life stage, the length of the designations within that life stage, and the additional efforts and costs required to resolve issues surrounding property acquisition. For some households/businesses the effects may be Extreme or High, while others may be better equipped to cope with the impacts of property acquisitions and the effects on them may be Moderate. The rating system does not adequately reflect that there are likely to be a range of effects for different household and business types, or how many affected parties might fall into each level of effect.
- There will be a reduction in access to local tertiary education and training opportunities, which has been assessed as 'Extreme' and the effects after mitigation are considered to not change. The loss of access to ECE services, which will mean families incur additional travel time and costs, is also assessed as 'Extreme'. Mitigation is also not expected to change the rating of these negative outcomes.

Health and Safety

- Some of the affected properties may remain vacant for a while, which is assessed as having 'Moderate' potential to attract anti-social behaviour and make people feel unsafe. Once mitigation is undertaken there are considered to be low risk social impacts that need to be monitored on an ongoing basis.
- Having a designation on your property impacts what you can do with it, which impacts personal and property rights and can lead to uncertainty, stress, and anxiety. This is

ranked as ‘Moderate’ and once mitigation is undertaken there are considered to be low risk social impacts that need to be monitored on an ongoing basis. I disagree with these ratings and as explained earlier would anticipate that some people will have Extreme or High effects and others may be better equipped to cope with the impacts on personal property rights and the effects on them may be Moderate. The rating system does not adequately reflect that there are likely to be a range of effects for different household and business types. It is important that those people feeling significant stress associated with designation do not slip through the cracks due to a relatively small share of people within the community being impacted. Regular engagement with affected property owners is a way of understanding and assessing when individuals and businesses need more support.

- Some locals may experience ongoing fear about disruptions to their way of life and changes to the long term community character. This is considered to be an ‘Extreme’ effect and once the proposed mitigation is provided these social effects are likely to have ‘significant or major consequences’.
- Disruptions to the Town Centre and long term changes to the amenity and attractiveness of the centre are assessed as ‘Moderate’ and after mitigation the social impacts are still considered to remain moderate.
- There is potential for increases in stress and anxiety for landowners and occupiers, including business owners and operators and those employed by directly affected businesses due to the uncertainty of timing of when work may commence. These considerations are assessed as having ‘Moderate’ effects and once mitigation is undertaken there are considered to be low risk social impacts that need to be monitored on an ongoing basis. As discussed earlier, in my opinion, the spectrum of impacts may range for households and businesses, with some experiencing significant effects due to their life stage, the length of the designations within that life stage, and the additional efforts and costs required to resolve issues surrounding property acquisition. For some households/businesses the effects may be Extreme or High and others may be better equipped to cope with the impacts of property acquisitions and the effects on them may be Moderate. The rating system does not adequately reflect that there are likely to be a range of effects for different household and business types.

Social Cohesion

- Community relationships and social ties may change as access to ECEs and recreation areas, such as Takaanini Reserve are restricted or lost. This is rated as an ‘Extreme’ impact. Before and after the proposed mitigation is provided the consequences of these social effects are likely to have ‘significant or major consequences’. Additionally, as people move out of the area, the local community will change.
- Community sense of place may change as key land uses change. The effects are considered to be ‘Extreme’. After the proposed mitigation is provided these social effects are likely to have ‘significant or major consequences’.
- The sense of place will change as properties are vacated and buildings are removed, especially in Taka Street and Walters Road. This is assessed as ‘Moderate’. Once mitigation is undertaken there are considered to be low risk social impacts that need to be monitored on an ongoing basis.

- People may feel like they have not had an adequate opportunity to influence decision making processes, which is assessed as having a 'High' impact and after the proposed mitigation is provided these social effects are likely to have 'significant or major consequences'.

Social Equity

- More vulnerable members of the community may be impacted by stress and anxiety through losses of access to goods and services and support networks moving out of the area. The existing relationship between the Takanini Care Centre and the Amber Early Learning Centre is highlighted. The effects are rated as 'High". After the proposed mitigation is provided these social effects are likely to have 'significant or major consequences'.

Proposed mitigation solutions for planning phase social impacts

The following key mitigation solutions are proposed by the SIA:

- Provide information to ECE's about Unitary Plan zoning and engage with the Ministry of Education and Auckland Council to better understand options.
- Stakeholder and Community Engagement Plan ('SCEMP')
- Project information Condition ('PIC')
- Property Management Strategy ('PMS')
- Community Health and Wellbeing Strategy ('CHWS')
- Remedies under the PWA.

4.4 The following effects identified by the SIA report regarding the construction phase are appropriate. Where I disagree with the weightings applied in terms of the effects, I have described the reasons for my difference of opinion. I have highlighted differences of opinions in each section by underlining my opinion.

Positive impacts

Livelihoods

- There may be some positive impacts and aspirations that arise from perceived investment in Takaanini, including the provision of more certainty about opportunities for future development around the transport network and improved safety.
- There may be more local employment and training opportunities.
- Some local businesses may benefit from increased patronage from construction workers – i.e. cafes & food businesses.
- There may be increased demand for goods and services through procurement opportunities for local and Māori owned businesses to subcontract to the primary contractor.

Access and Connectivity and Health and Safety

- Community members can anticipate the benefits from improved and safer access across the rail corridor and public investment, and this may cause excitement.

- Perceptions of, and levels of, safety may improve due to the presence of more construction workers in the area leading to less anti-social behaviour.

Environment

- There are likely to be positive amenity impacts for residential homes close to the railway where Manuroa Road is severed due to lack of noise from bells, train horns, and traffic movements.

Negative impacts

Access and connectivity

- There will be temporary disruption to vehicle and active mode movements in the area for the construction period of 2.5-3 years indicatively. It is identified that this will be of particular concern around Taka Street and Manuroa Road for pedestrians and cyclists and for elderly residents of the aged care facility. The impacts are assessed as being 'Moderate' and once mitigation is undertaken there are considered to be low risk social impacts that will need to be monitored on an ongoing basis. The impacts in the vicinity of Walters Road are assessed as 'High' and after the proposed mitigation is provided these social effects are likely to have 'significant or major consequences'. In my opinion, the effects for each location should be the same: "High'. This is because the SIA describes the importance of walking connections to the Takaanini Train Station for visitors, workers, and residents of the aged care centre, and while wayfinding signage and well-designed pathways during construction may occur, the potential for disruption in that location remains as significant as for Walters Road.
- The change of access and transport routes may have consequences for residents' daily living routines and is assessed as having 'Moderate' effects and once mitigation is undertaken there are considered to be low risk social impacts that need to be monitored on an ongoing basis.
- Reduced access to parking during construction for many businesses. The aged care centre on Taka Street is likely to be especially affected by changes to parking provisions. This is assessed as having 'High' effects and after the proposed mitigation is provided these social effects are likely to have 'significant or major consequences'.
- Heavy vehicle movements within the area will change and companies such as VTNZ and Hall's Coldchain (Spartan Road) are likely to experience 'High' impacts and after the proposed mitigation is provided these social effects are likely to have 'significant or major consequences'.
- Access to services and facilities may occur due to changes to accessing Takaanini Town Centre/Takanini Medical Centre/health services, ECE centres, Z Takaanini on the corner of Great South Road and Taka Street, and retail and commercial activity on the corner of Great South, Manuia and Manuroa Roads. The effects are assessed as 'High' and after the proposed mitigation is provided these social effects are likely to have 'significant or major consequences'.
- There may be some confusion for visitors to Takaanini Hall due to the closure of Takaanini Road with Taka Street. Local residents will also be affected but will have more awareness of changes to access routes. Those living east of the rail line will need to travel further to access the Hall. The access effects are likely to be 'High' and after the proposed mitigation is provided these social effects are likely to have 'significant or major consequences' for hall users.

- Five open spaces, including Takaanini Reserve, are likely to be impacted including some trees, the skatepark access points, access, and parking. The access effects are likely to be 'High' and after the proposed mitigation is provided these social effects are likely to have 'significant or major consequences'. Design considerations are proposed as a method of mitigating connectivity constraints linking Takaanini Reserve with the surrounding area.
- Additional travel time incurred in delays may cause 'Moderate' flow on impacts to the local and regional economy and business operators and once mitigation is undertaken social impacts are considered to be low risk that will need to be monitored on an ongoing basis.
- There will be some changes to access residential properties generating 'High' levels of impact. There is inconsistency between the main text of the report and Appendix E as to the rating of this impact, the former classifies the impact as 'High" and the latter classifies the impact as 'Moderate' and once mitigation is undertaken there are considered to be low risk social impacts that need to be monitored on an ongoing basis. In my opinion, the impacts are likely to be significant ('High') for those properties who are affected.
- There is the potential for 'Moderate' increased emergency response times due to temporary changes to access and road conditions before and after mitigation.
- There is the potential for 'Moderate' cumulative impacts within the broader Takaanini area associated with other developments, including the Frequent Transit Network and urban intensification initiatives that may disrupt community connections and increase travel times. Once mitigation is undertaken there are considered to be low risk social impacts that will need to be monitored on an ongoing basis.
- The ATE states that the transport network may be less resilient due to multiple level crossing closures.

Livelihoods

- There are likely to be 'High' impacts on people's perceptions about personal and property rights, livelihoods, and personal disadvantage. After the proposed mitigation is provided the consequences of these social effects are likely to have 'significant or major consequences'.
- There is a 'Low' potential for cracking of built structures such as houses and business buildings due to vibration impacts.
- Some businesses will be less visible or accessible due to hoardings and this could result in a potential loss of business for some of them. There is also the potential for reduced business activity and visitation due to disruption from construction activity, including temporary road closures, parking, and access restrictions. These effects are assessed as 'High' and after the proposed mitigation is provided these social effects are likely to have 'significant or major consequences'.

Health and safety

- Anti-social behaviour can occur in areas that have fewer people movements during construction, for example Takaanini Reserve may be impacted by changes to access routes, which can jeopardise individual's safety. There are also likely to be perceived and actual 'Moderate' safety impacts around the Town Centre and Southgate at night and surrounding the aged care facility due to changed sightlines. Once mitigation is

undertaken there are considered to be low risk social impacts that need to be monitored on an ongoing basis.

- There may be some 'Moderate' impacts on health and wellbeing associated with noise, dust, and vibration, especially for residential properties and sensitive activities such as the aged care centre and ECEs. These effects are likely to remain 'Moderate' after mitigation. In my opinion, it is important to recognise that for some people the effects will be 'High' or "Extreme' and for others, the effects may be a minor nuisance. The rating scale does not adequately reflect the range of effects for different households and businesses.
- An influx of construction workers may cause residents and workers to feel unsafe. This is assessed as a 'Moderate' impact. There appears to be some inconsistency with the coding of the rating after mitigation with the impacts increasing rather than remaining the same or reducing as would be expected.
- People trying to access the Train Station may behave in unsafe ways if access restrictions or delays occur. There is a 'Moderate' impact from these behaviours which is likely to remain similar after mitigation strategies. It is important to note that there are probably low probabilities of these behaviours occurring but there will be a high impact if individuals are injured or killed by risk taking behaviour.
- People living and working adjacent to construction areas can feel less safe due to changes in access and sightlines. Safety issues for more vulnerable road users, such as active mode users, may occur where access sightlines are blocked.

Social cohesion

- 'Moderate' changes to how communities function due to the closures of Manuroa Road and Spartan Road crossings, including changes to shopping patterns, including industrial communities. Once mitigation is undertaken there are social impacts that are considered to be low risk that will need to be monitored on an ongoing basis.
- Sense of place and community character is likely to experience 'Moderate' changes and is identified as being especially around Taka Street and the Takaanini Train Station. The changes around the town centre in Walters Road are expected to be 'High' and after the proposed mitigation is provided these social effects are likely to have 'significant or major consequences'. There are also likely to be 'Moderate' changes to people's perceptions of sense of place and belonging for those living east of the Takaanini Train Station. Once mitigation is undertaken social impacts are considered to be low risk and will need to be monitored on an ongoing basis.

Environment

- There may be 'Moderate' reductions in amenity and everyday enjoyment of spaces due to noise, vibration, and changing streetscape. Once mitigation is undertaken social impacts are considered to be low risk and will need to be monitored on an ongoing basis. In my opinion, these effects may be "High' for some properties which are directly adjacent to the construction works, and lower for properties further away from the proposed works.
- Properties that are adjacent to the project area, such as the aged care centre in Taka Street and Portrush Lane residential properties, are likely to experience the greatest potential adverse effects given their proximity and potential outlook to the works area, and associated noise, dust, and vibration. The effects on the residents of the aged care

centre are assessed as likely to disrupt sleep and rest patterns, which will vary by person and has been assessed as being 'Moderate'. Once mitigation is undertaken social impacts are considered to be low risk and will need to be monitored on an ongoing basis. In my opinion, these effects may be "High' for some individuals which are directly adjacent to the construction works, and lower for properties further away from the proposed works, but I note that the SIA acknowledges that the effects will vary by individual. Other places that are expected to have 'Moderate' reductions in amenity include Takanini Reserve, the Takanini Town Centre, and parts of Southgate. Regular users of the spaces are likely to experience temporary reduced amenity. There are likely to be 'High' localised changes to communities. I note that there is inconsistency between the main text of the report and Appendix E as to the rating of this impact, the former classifies the impact as 'High' and the latter classifies the impact as 'Moderate' and once mitigation is undertaken there are considered to be low risk social impacts that will need to be monitored on an ongoing basis. In my opinion, the impacts are likely to be 'Moderate'.

- There are likely to be temporary 'Moderate' changes to the appearance and use of spaces due to noise, vibration and changing streetscape. Once mitigation is undertaken social impacts are considered to be low risk and will need to be monitored on an ongoing basis.
- Privacy issues are likely to arise due to workers working at heights on bridges, as well as shading effects from the construction work. This may lead to feelings of anxiety and stress for residents of homes immediately to the south of all over bridges. The effects are assessed as 'Low'. It is important to recognise that the effects will be experienced differently by individuals and for some people the effects will be more significant than for others and for some affected parties the effects may be Moderate or High.

Proposed mitigation solutions

The following key mitigation solutions are proposed by the SIA:

- SCEMP
- Construction Management Plan ('CMP')
- Development Response Plan ('DRP')
- Good Neighbour Policy ("GNP')
- Urban and Landscape Design Management Plan ('ULDMP')
- Design considerations around accessing Takaanini Reserve.
- Staging of works is identified as a key way of avoiding potential adverse effects on amenity. Recommendations about staging and provision of alternative routes before construction commences are provided in the ATE.

4.5 The following effects identified by the SIA report regarding the operational phase are appropriate. Where I disagree with the weightings applied in terms of the effects, I have described the reasons for my difference of opinion. I have highlighted differences of opinions in each section by underlining my opinion.

Positive impacts

Urban Form

- There are some opportunities for land that is not required post construction to be reintegrated with the surrounding area.

Access and connectivity

- There will be better travel mode choices, including safer active modes and rail networks, and more certainty for vehicle movements due to the removal of traffic congestion and delays, reducing stress for commuting and travelling around the community on a daily basis.
- There will be improved modal choices for accessing parks, open spaces, recreational facilities, shops, and services.
- The connectivity between eastern and western parts of Takaanini will be improved by removing the NIMT severance effect.
- Connections and investor confidence may be enhanced.

Livelihoods

- Local people who have developed skills by being involved in the construction process may have improved work pathways leading to employment in other projects.
- The rail network for public and freight transport is likely to improve with greater frequency and less delays, which can lead to positive economic effects and increased commercial investment.
- General improvements to property values due to the improved transport infrastructure and urban design.

Health and safety

- There will be safety improvements, through the removal of conflict between rail and road users, leading to fewer deaths and serious injuries.
- There may be improvements to emergency services response times due to no longer waiting at level crossings.
- People may be more confident to travel using active modes due to improved safety, and there will be health and wellbeing benefits from this activity.

Social cohesion

- Potential to incorporate cultural values and aspirations in bridge structures through design elements.

Environment

- By removing the barrier arms and alarms there will be less visual intrusion and noise associated with the rail line which may result in amenity improvements.

Negative impacts

Urban form

- There will be greater setback from the street edge near cul-de-sac heads and access lanes for residential properties which may lead to disjointed connectivity and urban form. The set back may increase the visual dominance of the bridges.

Access and connectivity

- Permanent changes to access for properties and some intersections and roads may be less convenient and safe than the current configuration and may lead to longer travel times and increased safety risks. These effects are assessed as 'High' prior to mitigation and "Moderate' after mitigation strategies. The ATE identifies the following key properties impacted by access issues: VTNZ and Halls Refrigeration (Spartan Road); three industrial businesses on Oakleigh Avenue; BestStart, The Lawndromat and one residential property on Manuroa Road; Takanini LDV Auckland Supersite, Z Takanini Service Station and Burger King, a church, Takanini Care Centre, Takaanini Reserve, residential properties (numbers 6-22 and 23-33) on Taka Street; and Southgate Shopping Centre, Carters and Takaanini Town Centre on Walters Road. As businesses adapt and change to the new routes, the impacts will become less onerous, but it is important to acknowledge that some businesses will no longer be able to function as they currently do.
- The way people move around the community may be affected to 'Moderate' levels. Once mitigation is undertaken social impacts are considered to be low risk and will need to be monitored on an ongoing basis. It is likely that people will adapt and change as they discover new routes to move around the community, and for most it will be a temporary inconvenience until those adaptations are made.
- Potential for actual, and perceived, increased community severance and amenity impacts resulting from bridge structures; Walters Road and Taka Street are specifically highlighted. The effect is assessed as 'Moderate', and there is no rating provided for after mitigation as design solutions are expected during earlier phases to address severance issues. In my opinion, the severance effect of the bridges will permanently change the way that the communities function, but it is difficult to determine whether post construction the effects may be significant.
- Permanent loss of on-street parking. The ATE notes the following key parking changes:
    - Loss of 20-80 parking spaces on-site at Halls Refrigeration Transport Ltd and 90 car parking spaces at Mitsi Galore on Spartan Road.
    - Approximately 14 parking spaces removed on-site from Oakleigh Avenue.
    - Loss of 22 parking spaces at the shopping centre south of Manuia Road.
    - Loss of approximately 13 spaces on Manuroa Road east of the level crossing (in the vicinity of the Best Start ECE). Best Start will also lose 12 on-site car parks.
    - Loss of 89 on-street parking spaces on Taka Street (impacts likely for the Takanini Care Centre, Amber Early Learning Centre, and Takaanini Reserve). On-site car parking spaces will be removed from the following land uses: 26 from Takanini LDV Auckland Supersite (162 Great South Road), 9 from Z-Takanini Service Station and Burger King, 10 from the church at 7 Taka Street, and 8 car parks from the Takanini Care Centre (9-13 Taka Street).
    - Loss of 26 on-street parking spaces on Walters Road close to the Town Centre. On-site car parking spaces lost include 32 from Southgate Shopping Centre, 10 from Carters (12 Walters Road), and 24 from the Town Centre.
- The ATE suggest that approximately 67 carparks may only be required during construction and may be reinstated after construction is completed, leaving a total loss of 206 car parking spaces. Loss of parking on-street and on-site is likely to create

significant on-going adverse effects for businesses and residential properties, including for new residents if parking is not provided on-site. There could be on-going parking congestion in surrounding streets from residents parking off the main thoroughfares and parking permits and time restrictions may need to be introduced to overcome those negative effects.

- There will be ongoing adverse effects on freight routes, (e.g. VTNZ and Hall's Cold Chain Logistics).

Health and safety

- The opportunity for antisocial behaviour will increase if people loiter under the overbridges. This effect is assessed as 'Moderate' and no rating is provided after mitigation as design solutions are considered to address these effects during earlier stages. In my opinion, there is a very real chance that anti-social behaviour could occur in these spaces if they are not designed in a way to discourage certain behaviours.
- There may be longer response times for emergency services due to the new routes, which may lead to 'Moderate' impacts both prior to and after mitigation strategies.
- Those using active modes will need to use more effort to cross the railway due to the proposed slopes and grade separations. This is assessed to have 'Moderate' social effects both before and after mitigation. It is important to note that for less mobile people, such as the elderly, disabled or people pushing strollers the effects of gradients may be more significant than for more physically capable individuals.

Environment

- There may be ongoing 'Moderate' amenity reductions within the Town Centre due to the bridges.
- There may be ongoing issues arising from lighting and traffic noise on bridges that may affect the amenity for residential properties. These social effects are expected to continue to be 'Moderate' or low risk that will need to be monitored on an ongoing basis
- The proposed undercroft spaces will have potential adverse effects on landscape character as there is potential for these areas to become unsafe and have low amenity values.

Mitigation Solutions

The following key mitigation solutions are proposed by the SIA:

- Design is the main mitigation measure for most of these elements.
- SCEMP
- ULDMP.

4.6 Many of the social effects that are identified in the AEE, the SIA and the ATE have been raised by submitters, and Section 5.0 considers submissions within the context of those assessments.

5.0 Submissions and Local Board views

5.1 I have reviewed the submissions lodged in relation to the NoRs, and summarise in Table 3 the issues raised relating to social impacts.

Table 3: Social Impact Issues raised in Submissions

Social Impact Issues		Number of Submissions
Social effects of designation prior to construction		
Extended length of NoR designation	NoR 1	18
	NoR 2	10
NoR effects on property sale/value/development	NoR 1	10
	NoR 2	2
Consultation limitations	NoR 1	8
	NoR 2	2
Assessment of alternatives	NoR 1	1
	NoR 2	0
Social effects of construction		
NoR effects on physical operation of businesses	NoR 1	24
	NoR 2	10
Health and safety	NoR 1	2
	NoR 2	4
Parks, open space, and education	NoR 1	5
	NoR 2	4
Social cohesion and social equity	NoR 1	1
	NoR 2	0
Social effects of operation		
NoR effects on physical operation of businesses	NoR 1	32
	NoR 2	10
Residential amenity	NoR 1	3
	NoR 2	3
Urban design	NoR 1	6
	NoR 2	4
Health and safety	NoR 1	16
	NoR 2	14
Parks, open space, and education	NoR 1	4
	NoR 2	5
Social cohesion and social equity	NoR 1	3
	NoR 2	0
NoR Conditions	NoR 1	7
	NoR 2	5

Social Effects of designation prior to construction

Extended length of NoR designation

5.2 There is significant uncertainty for landowners and businesses about matters such as ongoing tenancies and the inability to increase rents and renew leases or find suitable new properties.[3] There is also concern that if existing tenants move out of commercial premises, it may be difficult to secure new tenants due to the potentially reduced attractiveness of the physical environment in and around the premises within the term of the new tenancy.

[3] **NoR 1**: Johnstone Properties Partnership (#3), Takanini Business Association Inc (#4), Portsmouth Family Trust (#7), Mr Koppens and Ms Ibbett (#10), Runciman Trust (#13), ATSource (#14), Dealership Properties Ltd (#18), Big Rock Commercial Ltd and Matthew Koppens Ltd (#22), OnTrack Trust (#28), Halls Transport (#29), Tahua Partners Ltd (#30), Takanini Village Limited and Tonea Properties Ltd (#37), Sunlight Holdings Ltd and South Auckland Marine Ltd (#38), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#39), Arborfield Trust, Takanini Home and Trade Ltd and Mitre 10 Mega Takanini Ltd (#40), Z Energy Ltd (#42), Kāinga Ora (#43)
NoR 2: Takanini Business Association Inc (#3), Alda Investments Limited (#10), D E Nakhle Investment Trust (#11), Takanini Childcare Investments Ltd (#15), Takanni Village Limited and Tonea Properties Ltd (#17), Sunlight Holdings Ltd and South Auckland Marine Ltd (#18), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#19), Mitre 10 Takanini Ltd (#20), Z Energy Ltd (#22), Kāinga Ora (#23)

5.3 Submitters have outlined that future business planning is much more difficult due to the long timeframes proposed, including making decisions about whether (and when) to relocate due to the proposal, and worries about lost income potential that would have been gained through property value increases and sales revenue, and the additional costs incurred by them due to needing to engage professional consultants and lawyers. Childcare centres have outlined issues with being able to obtain licences to operate from the Ministry of Education due to licences being tied to a specific property, and requiring a set amount of car parking, which may become impossible to provide once part of their property is acquired.[4] In particular, DDI Investments Ltd is concerned that their land (at 72-86 Great South Road) appears to only be required for construction and not ongoing activity and 15-year time length ensures uncertainty over a long timeframe.[5]

5.4 There are mental and physical health issues that are likely to arise from the stress that is associated with these uncertainties and the lack of autonomy over properties. This is identified as being "immense".[6] These effects are particularly significant for older people who may be required to make large changes to their way of life at a time when they were expecting to be settled and able to enjoy their property rights without interruption. The 15-year period may take up a large part of the period which older people expect to remain at the property, essentially representing for them permanent uncertainty.

5.5 These are all valid concerns and are not unexpected or unanticipated by the applicant's SIA which acknowledges that for some individuals and businesses, the likely effects may be experienced at extreme or high levels.

NoR effects on property sale/value/development

5.6 Business landowners will be unable to develop their properties over the 15-year designation period to fit the purpose of their business.[7] The ability to sell their property and move to another more suitable location is uncertain and leads to stress associated with that uncertainty. Also, the potential for added value through redevelopment will be removed by the designations. Together this may lead to planning blight.

5.7 Residential property owners, as well as business landowners have also questioned how easy it will be to sell their properties in timeframes that suit their needs. This is especially a concern for elderly and infirm community members.[8]

5.8 These are valid concerns and the applicant's response is that the PWA can compensate property owners for the loss of their property. I have concerns about how easy this will be to access for lay people and that there may be additional costs for homeowners to access technical expertise from lawyers and valuers to ensure that this is a fair process that compensates people in timeframes that suit them rather than the financial timeframes for the project. If the PWA is unable to meet submitters personal needs in their timeframes, there is

[4] **NoR1:** BNAP Holdings (#24)
[5] **NoR1**: DDI Takanni Investments Ltd (#17)
[6] **NoR1**: Mr Koppens and Ms Ibbett (#10), Runciman Trust (#13), AtSource (#14), Ms Chisnall (#19)
[7] **NoR1**: Johnstone Properties Partnership (#3), Mr Koppens and Ms Ibbett (#10), Oceania Healthcare (#11), Runciman Trust (#13), AtSource (#14), ByDesign Concrete and Paving Ltd (#16), Silverfin Ltd (#21), Big Rock Commercial Ltd and Matthew Koppens Ltd (#22), BNAP Holdings Ltd (#24)
NoR2: Takanini Childcare Investments Ltd (#15)
[8] **NoR1**: Ms Scott (#1); **NoR2**: Mr and Ms Bhaduri (#13)

likely to be significant levels of stress and dissatisfaction with the process and planning authorities.

Consultation

5.9 Many submitters have been disappointed by the way that community consultation has been undertaken. Weaknesses identified include communication that has not made community members adequately aware of the proposal, that has been perceived as being dismissive of other solutions/ideas that have been proposed, piece-meal, and paying 'lip-service' to engagement.[9]

5.10 Some submitters have indicated that they would like more certainty about when and where the works will happen in the future.[10]

5.11 The SIA described the community engagement process which included advising 380 potentially impacted property owners in writing and inviting people to engage with the project team. Two community open days were held and there was advertising including via social media and the use of an information website. The website was updated prior to the lodgement of the application with concepts and details for drop-in sessions. Letters were subsequently sent to 190 potentially affected property owners. Information packs were sent to local stakeholders, including local schools and ECEs, and the Takanini Business Association. Meetings and presentations were held with the Papakura Commercial Projects Group, Wallace Construction, Auckland Transport Regional Freight Group, and the Takanini Business Association.

5.12 The key themes that are documented as arising from those discussions included concerns about the acquisition process, requests for more information and detailed diagrams, loss of property value and access, implementation timing, ongoing property tenure, subdivision of property, traffic modelling, congestion, disruption and diversions, alternatives assessment (including undergrounding of Walters Road link), the importance of industrial freight links at Spartan and Manuroa Roads, contesting likely take-up rates of active modes, safety, visual amenity, vibration, and noise issues.

5.13 This outcome is not unexpected and was identified in the applicant's SIA. Frustration is likely to be being generated by people being advised that their properties are likely to be affected but with no detailed designs being completed and only concept plans being drawn up, it is hard to visualise what changes may mean for individuals and businesses. This lack of concrete information is likely to be leading to responses to questions that are inadequate for affected parties, meaning people believe that their ideas and alternative solutions are not being given adequate recognition or consideration. Well-done community engagement and consultation is essential to help allay some of the fears of community members and provide certainty about the effects of partial and full acquisition of properties and design considerations for the over bridges.

[9] **NoR1**: Mr Hogan (#5), Mr Koppens and Ms Ibbett (#10), Big Rock Commercial Ltd and Matthew Koppens Ltd (#22), Takanini Residents Action Group (#25), Halls Transport (#29)
NoR2: Brian Hogan (#9)
[10] **NoR1**: Mr Kumar (#9), Halls Transport (#29), Watercare (#41); **NoR2**: Watercare (#21)

Assessment of Alternatives

5.14 One submitter has questioned whether the concerns of local businesses and the associated negative social impacts caused by the proposal as identified in the SIA have been given sufficient weighting in the options assessment.[11]

5.15 I defer to the planning assessment regarding this matter but note that often more weighting is given to financial considerations than social impacts, and as the weightings are applied to assessment criteria on a generalised basis for each assessment criteria, the severity of impacts for some community members can appear to not be given sufficient consideration. As mentioned earlier it is important that those people feeling significant stress associated with the designations do not slip through the cracks due to a relatively small share of people within the community being impacted and thorough community engagement is one of the best strategies to address these concerns.

Social effects of construction

NoR effects on physical operation of businesses

5.16 A key concern is the impact that construction will have on freight movements.[12] Freight is likely to have to divert to alternative routes, including through residential areas due to the closure of the Spartan Road and Manuroa Road level crossings. Ensuring that there are alternative operating routes nearby (i.e. Manuia Road and Taka Street) to cross the NIMT is considered important to mitigate these effects.

5.17 Changes to transport movements and removal of good exposure to traffic is expected to have a negative effect on business operation, both for businesses producing and selling products that need to be moved away from the site of production, and for businesses receiving goods from suppliers elsewhere.[13]

5.18 On-street parking and on-site parking will be reduced, and there will be changes to the access to some properties.[14] There may be financial costs to secure alternative parking for some businesses and workers.[15] In addition, B&F Papers Ltd, located at 33 Oakleigh Avenue, has not been identified as potentially being landlocked during construction works, and relies on access to their site for 400 containers per annum and daily deliveries to customers.[16]

[11] **NoR 1**: Big Rock Commercial Ltd and Matthew Koppens Ltd (#22),
[12] **NoR1**: Takanini Business Association Inc (#4), OnTrack Trust (#28), Halls Transport (#29), Vertex Lubricants (#31), Takanini Village Limited and Tonea Properties Ltd (#37), Arborfield Trust, Takanini Home and Trade Ltd and Mitre 10 Mega Takanini Ltd (#40)
NoR2: Takanini Business Association Inc (#3), Takanni Village Limited and Tonea Properties Ltd (#17), Mitre 10 Takanini Ltd (#20)
[13] **NoR1**: A1 Auto Panel and Paint (#2), Tahua Partners Ltd (#30), Vertex Lubricants (#31)
[14]**NoR1**: Takanini Business Association Inc (#4), Portsmouth Family Trust (#7), Aintree Group Ltd (#15), DDI Takanni Ltd (#17), New Zealand Steel Ltd (#20), OnTrack Trust (#28), Halls Transport (#29), Tahua Partners Ltd (#30), Vertex Lubricants (#31), Takanini Village Limited and Tonea Properties Ltd (#37), Sunlight Holdings Ltd and South Auckland Marine Ltd (#38), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#39), Arborfield Trust, Takanini Home and Trade Ltd and Mitre 10 Mega Takanini Ltd (#40), Z Energy Ltd (#42)
NoR2: Takanini Business Association Inc (#3), Takanni Village Limited and Tonea Properties Ltd (#17), Sunlight Holdings Ltd and South Auckland Marine Ltd (#18), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#19), Mitre 10 Takanini Ltd (#20), Z Energy Ltd (#22)
[15] **NoR1**: Oceania Healthcare (#11)
[16] **NoR1**: B&F Papers Ltd (#12)

5.19 Road blockages and disruption to existing routes is likely to lead to customer disruption, including for pedestrian access to the railway station and bus stops. [17] KiwiRail Holdings Ltd has requested that closures to the rail lines are minimised so that the important freight and public passenger network remains operational.[18]

5.20 There is likely to be disruption caused by construction noise, dust, and vibration. [19] There are concerns that these effects will be significant on surrounding businesses even though the assessment states that they will be within managed levels.

5.21 BP Oil New Zealand Ltd (#23) have specific concerns that their business (a service station) at 102 Great South Road may need to be decommissioned during construction and would like to be provided with the opportunity to re-establish the site in a re-configured manner once the Taka Street bridge is constructed. [20] Mitre 10 is also concerned about the potential loss of a building that provides warehousing of building materials on their site during the construction period. [21]

5.22 Businesses that are impacted by any of these effects are expected to have a loss in revenue due to inconveniences arising during the construction period.[22]

5.23 The infrastructure providers have indicated that it is essential that there is a coordinated effort to plan and lay infrastructure while transport works are undertaken to minimise disruption to the surrounding community.[23]

5.24 These are all valid concerns, and in most cases, have been identified in the application and in the SIA. There are options for mitigating some of the ongoing social effects.

5.25 The movement of freight through non-industrial areas is likely to increase the risk to smaller vehicles and active mode users which may lead to safety issues. Businesses are also likely to incur travel time costs associated with longer routes. I acknowledge that these are potential issues and defer to the recommendations of the transport experts.

5.26 It is acknowledged that businesses will be adversely affected by changes to access to business premises that will impact on their ability to receive goods for sale, through couriers and freight distribution for example, and sell goods through potentially a loss of customers due to inconvenience accessing sites. Any potential land-locking of businesses should be avoided through appropriate transport design. Changes to on-street and off-site parking is also likely to cause inconvenience to businesses and their consumers and workers. These effects are likely to affect businesses profitability, and for this reason it will be important to

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[17] **NoR1**: Takanini Business Association Inc (#4), Portsmouth Family Trust (#7), Oceania Healthcare (#11), Vertex Lubricants (#31); **NoR2**: Takanini Business Association Inc (#3), Van Den Brink 254 Limited (#8)
[18] **NoR1**: KiwiRail Holdings Ltd (#33); **NoR2**: KiwiRail Holdings Ltd (#12)
[19] **NoR1:** Takanini Business Association Inc (#4), Portsmouth Family Trust (#7), Oceania Healthcare (#11), OnTrack Trust (#28), Tahua Partners Ltd (#30), Vertex Lubricants (#31), Takanini Village Limited and Tonea Properties Ltd (#37), Sunlight Holdings Ltd and South Auckland Marine Ltd (#38), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#39), Arborfield Trust, Takanini Home and Trade Ltd and Mitre 10 Mega Takanini Ltd (#40)
NoR2: Takanini Business Association Inc (#3), Mr Dasgupta (#4), Van Den Brink 254 Limited (#8), Takanni Village Limited and Tonea Properties Ltd (#17), Sunlight Holdings Ltd and South Auckland Marine Ltd (#18), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#19), Mitre 10 Takanini Ltd (#20)
[20] **NoR1**: BP Oil New Zealand Ltd (#23)
[21] **NoR1**: Arborfield Trust, Takanini Home and Trade Ltd and Mitre 10 Mega Takanini Ltd (#40); **NoR2**: Mitre 10 Takanini Ltd (#20)
[22] **NoR1**: Takanini Business Association Inc (#4), Portsmouth Family Trust (#7), BP Oil New Zealand Ltd (#23); **NoR2**: Takanini Business Association Inc (#3)
[23] **NoR1**: Telecommunications Submitters (#8); **NoR2**: Telecommunications Submitters (#7)

ensure that disruption is kept to the minimum amount of time necessary, and businesses are compensated for lost revenue and aided to keep operating during the construction period.

5.27 Loss of on-street parking will also be an important consideration for residential properties who rely on the availability of parking for their visitors to conveniently access their properties. It will become inconvenient for these people to have visitors, which may mean that people park further away or occupants need to meet at other locations to catch up with friends and family.

5.28 Engagement with affected parties to understand their operational requirements is an important way of trying to mitigate any adverse effects during the construction periods and issues can be addressed in a variety of construction management plans. This includes understanding specific sites such as the BP and Mitre 10.

5.29 The requests from network utility and telecommunications operators to co-ordinate efforts to ensure that infrastructure maintenance and installation occurs at the same time as transport infrastructure construction is a practical way of reducing the inconvenience to transport networks by avoiding on-going construction effects if they do not occur in tandem. Engagement with the network utility providers should occur during the design phase to ensure that any necessary improvements can be incorporated within project time frames.

Health and safety

5.30 Some facilities such as the healthcare facility on Taka Street will require easy access for emergency vehicles at all times of the day to ensure the safety and health of staff and patients.[24]

5.31 There may be negative effects specifically for the residents of the Oceania Healthcare centre and other residential homes including impacts of quiet enjoyment from noise, vibration, construction fencing, and loss of trees, and health and respiratory issues from dust.[25] There may be traffic safety concerns around schools for those using active modes at peak periods.[26]

5.32 The applicant's SIA recognises the likely health and safety effects that will arise during construction and has classified effects on the Oceania Healthcare centre as 'Moderate' but recognises that the effects will vary by individual. It also acknowledges that emergency services will need to be educated about new access procedures during construction. These are valid and important concerns for the ongoing operation of the aged care home, and ongoing engagement between the project team and the facility on Taka Street will be required to ensure that the effects are minimised.

Parks, open space and education

5.33 Auckland Council is concerned about the loss of public open space and park land at 24R Taka Street.[27] This is an effect that is likely to occur both during and after construction.

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[24] **NoR1**: Oceania Healthcare (#11)
[25]**NoR1**: Oceania Healthcare (#11); **NoR2**: Mr Dasgupta (#4), Owners of Portrush Lane (#45), Mr and Ms Bhaduri (#13)
[26]**NoR1**: Ministry of Education (#36); **NoR2**: Ministry of Education (#16)
[27]**NoR1**: Auckland Council (#34), Takanini Village Limited and Tonea Properties Ltd (#37), Sunlight Holdings Ltd and South Auckland Marine Ltd (#38), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#39), Arborfield Trust, Takanini Home and Trade Ltd and Mitre 10 Mega Takanini Ltd (#40)
NoR2: Takanni Village Limited and Tonea Properties Ltd (#17), Sunlight Holdings Ltd and South Auckland Marine Ltd (#18), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#19), Mitre 10 Takanini Ltd (#20)

5.34 The Ministry of Education is concerned about the potential for construction work to affect existing and future schools by traffic, noise, and other nuisance effects.[28]

5.35 These are valid concerns, and the SIA recognises the effects on Takaanini Reserve and the surrounding ECEs, but does not consider that any primary, intermediate, and secondary schools will be affected by construction. I agree with the Ministry of Education that it is highly likely that noise and traffic effects will cause disruption to children's ability to concentrate and learn during the construction period. Countering those negative effects are the positive effects of opportunities for small children to learn about construction equipment while works are undertaken. The project team will need to discuss issues with affected parties and design solutions in the CMP to help minimise any negative effects.

Social cohesion and social equity

5.36 The Supreme Sikh Society NZ is concerned that up to 75% of their congregation will not be able to visit Takanini Gudwara which would affect the charities that are supported by the Society during the period of construction. [29]

5.37 The assumption that appears to be made in the submission is that all connections leading to the temple will be closed at the same time and my understanding from reading the ATE is that this is unlikely to happen due to the widespread connectivity issues that would arise.

Social effects of operation

NoR effects on physical operation of businesses

5.38 There will be ongoing impacts on freight movements, which may lead to increased costs associated with more travel time.[30] There are concerns about freight transport using residential streets (such as Manuroa Road and Oakleigh Avenue) with other social activities present such as churches and kindergartens, rather than travelling through industrial areas which are less sensitive to these movements. Conversely, while road transportation may be negatively impacted, rail transportation is expected to become more efficient.[31]

5.39 Changes to transport movements and removal of high exposure to traffic and signage are expected to have a negative effect on business operations.[32]

[28] **NoR1**: Ministry of Education (#36); **NoR2**: Ministry of Education (#16)
[29] **NoR1**: Supreme Sikh Society (#26)
[30] **NoR1**: Takanini Business Association Inc (#4), Mr Koppens and Ms Ibbett (#10), Runciman Trust (#13), AtSource (#14), ByDesign Concrete and Paving Ltd (#16), OnTrack Trust (#28), Halls Transport (#29), Durmast Holdings Ltd (#32), Arborfield Trust, Takanini Home and Trade Ltd and Mitre 10 Mega Takanini Ltd (#40), Z Energy Ltd (#42)
NoR2: Takanini Business Association Inc (#3), Mitre 10 Takanini Ltd (#20), Z Energy Ltd (#22)
[31] **NoR1**: KiwiRail Holdings Ltd (#33), Takanini Village Limited and Tonea Properties Ltd (#37), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#39), Arborfield Trust, Takanini Home and Trade Ltd and Mitre 10 Mega Takanini Ltd (#40)
NoR2: KiwiRail Holdings Ltd (#12), Takanni Village Limited and Tonea Properties Ltd (#17), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#19), Mitre 10 Takanini Ltd (#20)
[32] **NoR1**: A1 Auto Panel and Paint (#2), Oceania Healthcare (#11), New Zealand Steel Ltd (#20), Silverfin Ltd (#21), Sunlight Holdings Ltd and South Auckland Marine Ltd (#38), Z Energy Ltd (#42)
NoR2: Sunlight Holdings Ltd and South Auckland Marine Ltd (#18), Z Energy Ltd (#22)

5.40 On-street parking and on-site parking will be reduced, and there will be changes to access to some properties.[33]

5.41 It is also likely that some residents will move away from the area due to their properties being acquired and this may affect business patronage.[34]

5.42 Road blockages and disruption to existing routes are likely to lead to customer disruption. [35]

5.43 Some buildings will be impacted in the long term making it difficult to operate from their existing site.[36] In the case of Mitre 10, there will be distributional impacts on the wider Mitre 10 chain as the site is authorised for loading and unloading of sea freight.

5.44 Businesses that are impacted by any of these effects are expected to have a commensurate loss in revenue due to the inconvenience and may consequently cease operating if alternate sites cannot be found, including a number of ECEs, the skills and training centre, and a service station that provides fuel for heavy vehicles, vehicle and tyre servicing outlets, house moving, car dealerships, marine retail and servicing, and food retail services.[37] This may lead to local employment issues as well as more effort being required to access goods and services.

5.45 The Papakura Local Board is specifically concerned about community severance effects created by only having an active mode bridge at Manuroa Road, and considers that the shops and businesses at the Gateway Shopping Centre in the corner of Manuroa Road and Great South Road may become more difficult to access.[38] It is their opinion that the proposed overbridge at Walters Road will be the most disruptive option and that consideration is given towards providing the best environmental and community outcome, rather than the best financial outcome.

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[33]**NoR1:** Takanini Business Association Inc (#4), Portsmouth Family Trust (#7), Oceania Healthcare (#11), Aintree Group Ltd (#15), New Zealand Steel Ltd (#20), Silverfin Ltd (#21), H20 Pipelines (#27), OnTrack Trust (#28), Halls Transport (#29), Tahua Partners Ltd (#30), Vertex Lubricants (#31), Takanini Village Limited and Tonea Properties Ltd (#37), Sunlight Holdings Ltd and South Auckland Marine Ltd (#38), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#39), Arborfield Trust, Takanini Home and Trade Ltd and Mitre 10 Mega Takanini Ltd (#40), Z Energy Ltd (#42)
NoR2: Takanini Business Association Inc (#3), Carter Building Supplies (#5), Takanni Village Limited and Tonea Properties Ltd (#17), Sunlight Holdings Ltd and South Auckland Marine Ltd (#18), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#19), Mitre 10 Takanini Ltd (#20)
[34]**NoR1**: Takanini Business Association Inc (#4), Runciman Trust (#21), AtSource (#14), OnTrack Trust (#28), Vertex Lubricants (#31); **NoR2**: Takanini Business Association Inc (#3)
[35]**NoR1**: Takanini Business Association Inc (#4), Portsmouth Family Trust (#7); **NoR2**: Takanini Business Association Inc (#3)
[36]**NoR1**: Halls Transport (#29), Arborfield Trust, Takanini Home and Trade Ltd and Mitre 10 Mega Takanini Ltd (#40), Z Energy Ltd (#42); **NoR2**: Mitre 10 Takanini Ltd (#20), Z Energy Ltd (#22)
[37]**NoR1**: Takanini Business Association Inc (#4), Carter Building Supplies (#6), Portsmouth Family Trust (#7), Mr Koppens and Ms Ibbett (#10),ByDesign Concrete and Paving Ltd (#16), DDI Takanni Ltd (#17), New Zealand Steel Ltd (#20), Silverfin Ltd (#21), Big Rock Commercial Ltd and Matthew Koppens Ltd (#22), BP Oil New Zealand Ltd (#23), BNAP Holdings Ltd (#24), OnTrack Trust (#28), Halls Transport (#29), Tahua Partners Ltd (#30), Vertex Lubricants (#31), Takanini Village Limited and Tonea Properties Ltd (#37), Sunlight Holdings Ltd and South Auckland Marine Ltd (#38), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#39), Z Energy Ltd (#42)
NoR2: Mead Trusts Holdings Ltd – Carters Takanini (#1), Takanini Business Association Inc (#3), Carter Building Supplies (#5), Takanini Childcare Investments Ltd (#15), Takanni Village Limited and Tonea Properties Ltd (#17), Sunlight Holdings Ltd and South Auckland Marine Ltd (#18), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#19), Z Energy Ltd (#22)
[38]Papakura Local Board Open Minutes 13 December 2023

5.46 The loss of the childcare facility from across Taka Street will have significant effects in terms of severing an ongoing relationship between the aged care centre and the ECE that has helped to foster social connections between people of all ages.[39]

5.47 Two submitters are concerned that as people move away from the area that the Council will be unable to maintain the same level of services in Takanini due to a reduction in rates revenue collected.[40]

5.48 The applicant acknowledges that there will be ongoing changes to freight routes which could potentially result in extra travel time and costs, however those costs can be offset by other improvements elsewhere in the network from not having to wait at level crossings. Nevertheless, there are likely to be some costs to companies that will potentially affect revenue but should be able to be absorbed into on-going operational expenses. I defer to the transport experts with respect to transport modelling of these effects.

5.49 It is also likely that some businesses will have reduced exposure to passing traffic and may need to invest in advertising or wayfinding signage to ensure that their customers know that they are still operating and provide information about how to access them. This is likely to be at relatively low cost to those businesses. It would be beneficial if those affected businesses were identified and provided with financial support to enable these solutions to be undertaken, or for wayfinding solutions to be provided by the applicant.

5.50 A reduction in both on- and off-street parking is likely to affect the profitability of some businesses, inconvenience workers, and make some new residential developments less attractive if on-site parking cannot be provided. Engagement with affected parties should identify what options are available to mitigate these effects. Solutions could include providing financial assistance to provide parking spaces in other locations nearby and utilising spaces that were required during construction but will not be required on an ongoing basis.

5.51 It is likely that some residents who are customers will move away from the local area and take their custom elsewhere, however there is also the likelihood that the public investment and improved transport connectivity in the area will stimulate higher density developments which will replace those lost customers in the operational phase.

5.52 The SIA acknowledges that some businesses may close and there will be associated employment losses in the area. Some affected businesses, such as Carters have been associated with their sites for long periods of time and are likely to be important parts of the sense of place and social fabric. It will be difficult for some of the bigger operations to find alternative sites close by and this may mean a loss of employment. The SIA proposes that providing information to ECEs about their options is important, and in my opinion, I think it is equally as important to keep some of the larger businesses locally where possible and this may mean providing ongoing support and advice about opportunities for relocation and assistance with resource consent and licensing applications.

5.53 The SIA also acknowledges that severance of social connections between agencies that have co-operated for many years will result in adverse impacts on social connections and this is especially apparent for the ECE and aged care facility on Taka Street who have a reciprocal relationship so that children and elderly residents can interact with each other. Aside from

[39] **NoR1**: Oceania Healthcare (#11)
[40] **NoR 1**: Runciman Trust (#13), ATSource (#14)

assisting the ECE to establish elsewhere in the community, should that be necessary for their operations, there may be opportunities to assist the ECE to continue this relationship through funding of transport costs to allow children and residents to continue to visit one another.

5.54 The application does not consider the effects of a loss of rates revenue attained by the Council in terms of losing residents and businesses. This effect is likely to be temporary and the opportunities for new higher density residential and commercial activity to be activated within the wider area is likely to offset any temporary losses. Further the magnitude of any such loss would likely be very small in the context of the size of the total community.

5.55 Community severance and changes to access to businesses at Takanini Gateway (Manuia and Manuroa Roads) and Southgate and the Town Centre (Walters Road), are both likely to affect the commercial viability of some businesses by changing customers' access to goods and services. Ensuring adequate access to those centres from their surrounding communities is very important to ensure that they continue to be healthy and vibrant. It is hard to visualise the likely severance effects caused by the over bridges due to there being very few examples of similar bridges through the middle of centres elsewhere in NZ. The bridge crossing over Sylvia Park shopping centre is one potentially comparable example which provides for connectivity between both sides of the centre, though the amenity under the bridge is characterised by shading, noise, and windy conditions. It is unclear at this stage whether there will be the opportunity to establish the same types of connectivity between the northern and southern sides of Walters Road or whether the bridge will entirely severe connectivity between the light industrial and Town Centre land uses. Good urban design and transport design will be required to ensure that effects on businesses in these two centres is minimised.

Residential amenity

5.56 Submitters expect that there will be increased ground vibration and noise created in residential areas due to freight travelling through those neighbourhoods on redirected routes.[41]

5.57 The Oceania Healthcare submission identifies that amenity will be changed by residents, visitors and staff looking directly out to a structure rather than across the road to mature trees as well as ongoing noise and shading.[42] The impacts on visual amenity in the surrounding neighbourhoods caused by large bridge structures are expected to be significant.[43]

5.58 There are also concerns about ongoing privacy due to people on elevated bridges being able to look into properties below bridges and survey what is happening at those properties.[44]

5.59 The residents of Portrush Lane are concerned about the ongoing devaluing of their properties due to additional noise being created by the bridge structures.[45]

5.60 The effects raised by submitters will contribute to their ability to enjoy and utilise their properties for residential activity. The SIA identifies that there are likely to be ongoing amenity effects created by the bridge structures on neighbouring properties. I defer to the noise, vibration and urban design experts' opinions about the best strategies to mitigate these

[41] **NoR1**: Mr Koppens and Ms Ibbett (#10); **NoR2**: Alda Investments Limited (#10), D E Nakhle Investment Trust (#11), Mr and Ms Bhaduri (#13)
[42] **NoR1**: Oceania Healthcare (#11)
[43] **NoR2**: Takanini Childcare Investments Ltd (#15)
[44] **NoR2**: Alda Investments Limited (#10), D E Nakhle Investment Trust (#11)
[45] **NoR1**: Owners of Portrush Lane (#45),

adverse effects. It is highly likely that some property occupiers and owners may feel like they are constantly under observation from people on the high structures, and this is a consideration for the urban design experts.

5.61 It is also possible that properties that are not redeveloped adjacent to the bridges may be constantly affected by noise, having been built using different techniques to those now applied (e.g. single vs double glazing, different insulation requirements, etc.) and this may cause the property values to reduce or remain stagnant in comparison to other nearby locations. One key mitigation measure may be to offer options for building re-design such as double glazing to help reduce these effects.

Urban design

5.62 There are concerns that anti-social behaviour will be enabled by the design of the bridges and there may be places which are unsafe for walking.[46]

5.63 There are also concerns about ongoing noise and vehicle pollution.[47]

5.64 These are valid concerns that are partly acknowledged in the applicant's SIA. Good urban design methods should minimise some of these effects and I therefore defer to those experts' opinions.

Health and safety

5.65 There are concerns about safety provisions with freight vehicles passing through residential areas that include facilities like kindergartens (Takanini Early Leaning and Family Centre).[48] There are also concerns about the safety of pedestrians and cyclists using the same roads as heavy vehicles.[49] Pedestrian access is considered important for some sites and designing safe access methods is essential.[50]

5.66 Some facilities such as the healthcare facility on Taka Street and proposed social housing on Porchester Road will require easy access for emergency vehicles at all times of the day to ensure the safety and health of staff and patients.[51]

5.67 Z Energy Ltd is particularly concerned about the design of the 'informal intersection' at Taka Street in terms of safety for pedestrians and cyclists and customers.[52] There are also concerns around the health and safety impacts on the storage of fuel.

5.68 Some submitters feel that the proposal will improve traffic safety within the wider network, and the provision of active transport modes on bridges will be beneficial in safety terms as well as

[46]**NoR1**: New Zealand Steel Ltd (#20), H20 Pipelines (#27), Takanini Village Limited and Tonea Properties Ltd (#37), Sunlight Holdings Ltd and South Auckland Marine Ltd (#38), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#39), Arborfield Trust, Takanini Home and Trade Ltd and Mitre 10 Mega Takanini Ltd (#40)
NoR2: Mr Dasgupta (#4), Takanni Village Limited and Tonea Properties Ltd (#17), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#19), Mitre 10 Takanini Ltd (#20)
[47]**NoR1**: H20 Pipelines (#27)
[48]**NoR1**: Takanini Business Association Inc (#4), Mr Koppens and Ms Ibbett (#10), Runciman Trust (#27), AtSource (#14)
[49]**NoR1**: Halls Transport (#29), Sunlight Holdings Ltd and South Auckland Marine Ltd (#38), Arborfield Trust, Takanini Home and Trade Ltd and Mitre 10 Mega Takanini Ltd (#40), Owners of Portrush Lane (#45),
NoR2: Sunlight Holdings Ltd and South Auckland Marine Ltd (#18), Mitre 10 Takanini Ltd (#20)
[50] **NoR2**: Alda Investments Limited (#10), D E Nakhle Investment Trust (#11),
[51]**NoR1**: Oceania Healthcare (#11), Z Energy Ltd (#42); **NoR2**: Alda Investments Limited (#10), D E Nakhle Investment Trust (#11), Z Energy Ltd (#22)
[52]**NoR1**: Z Energy Ltd (#42); **NoR2**: Z Energy Ltd (#22)

for opportunities to live healthier lifestyles.[53] Kāinga Ora, however, propose that underpasses instead of bridges would be more direct and safer and could be used by a wider range of people.[54] They request that elevators and staircases are provided to enable less able bodied people to use the bridges if they are built instead of underpasses.

5.69 The residents of Portrush Lane are concerned that standing water may attract mosquitos.[55]

5.70 There is concern that there may be safety considerations arising from the use of spaces under bridges which relate to anti-social behaviour and substandard lighting.[56]

5.71 Kāinga Ora also raises concerns about safety accessing the Takaanini train station and moving around the railway station site.

5.72 Kāinga Ora has concerns that the noise assessment has not considered the potential health effects on the surrounding community, and specifically its tenants.

5.73 Submitters have raised a number of concerns about the ongoing health and safety impacts arising during the operational phase of the project. Issues such as conflict between heavy freight vehicles and active modes and ensuring that emergency services have adequate access to businesses and residential properties is better addressed by urban design and transport experts.

5.74 The concerns about the ease of use of pedestrian bridges is also a key consideration that needs to be addressed by urban design and transport experts. Kāinga Ora has proposed that underpasses are less physically demanding than the proposed bridge gradients, however the potential personal safety effects of underpasses needs to be considered by urban designers.

5.75 Anti-social behaviour, mosquito concerns, and safety issues navigating the Takaanini Train Station will all lead to negative social impacts for a small number of people. Those issues should be able to be addressed adequately by urban design and transport experts.

Parks, open space and education

5.76 Auckland Council is concerned about the loss of public open space and park land at 24R Taka Street and 40R Walters Road.[57]

5.77 These are valid concerns as parks are important places to undertake activities that foster social connections and improve health and wellbeing. As the environment transitions to higher residential densities, there will be greater requirements for open space. The SIA recognises

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[53] **NoR1**: Papakura Local Board Open Minutes 13 December 2023, KiwiRail Holdings Ltd (#33), Ministry of Education (#36), Takanini Village Limited and Tonea Properties Ltd (#37), Sunlight Holdings Ltd and South Auckland Marine Ltd (#38), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#39), Arborfield Trust, Takanini Home and Trade Ltd and Mitre 10 Mega Takanini Ltd (#40), Kāinga Ora (#43), The Levene Foundation (#44)
NoR2: Papakura Local Board Open Minutes 13 December 2023, Mr Cho (#2), Van Den Brink 254 Limited (#8), KiwiRail Holdings Ltd (#12), Ministry of Education (#16), Takanni Village Limited and Tonea Properties Ltd (#17), Sunlight Holdings Ltd and South Auckland Marine Ltd (#18), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#19), Mitre 10 Takanini Ltd (#20), Kāinga Ora (#23)
[54] **NoR1**: Kāinga Ora (#43); **NoR2**: Kāinga Ora (#23)
[55] **NoR1**: Owners of Portrush Lane (#45)
[56] **NoR2**: Mr Dasgupta (#4), Mr and Ms Bhaduri (#13)
[57] **NoR1**: Auckland Council (#34), Takanini Village Limited and Tonea Properties Ltd (#37), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#39), Arborfield Trust, Takanini Home and Trade Ltd and Mitre 10 Mega Takanini Ltd (#40)
NoR2: Auckland Council (#14), Mr and Ms Bhaduri (#13), Takanni Village Limited and Tonea Properties Ltd (#17), Mead Trust Holdings Ltd and Carter Buildings Supplies Ltd (#19), Mitre 10 Takanini Ltd (#20)

the long-term effects on Takaanini Reserve. The project team will need to discuss issues with Auckland Council to design long-term solutions to ensure that appropriate levels of service are provided in the surrounding neighbourhoods.

Social cohesion and social equity

5.78 Two of the childcare centres are concerned that the longstanding relationships that they have developed between children, parents and staff could be jeopardised due to the potential that they need to relocate or that families chose to use other centres due to the inconvenience of accessing the centre during the construction period which could lead to a long-term loss of connections.[58]

5.79 There are concerns that the proposed plan does not consider the needs of disabled populations for moving around Takanini.[59]

5.80 The applicant's SIA does consider the relationships established at childcare centres between families and staff to be important and the likely loss of these relationships is assessed as being significant.

5.81 The design of active modes and transport projects should be designed around ensuring that everyone has access to a range of transport modes to ensure equitable access. This issue is a consideration for the transport planners.

NoR Conditions

5.82 There are a range of requests from submitters about the proposed conditions. This sub-section summarises those opinions and provides commentary about how suitable the suggestions may be to mitigate some of the social effects.

5.83 There is general support from the following conditions and detailed plans[60]:

- Stakeholder and Community Engagement Plan
- Development Response Plan
- Community Health and Wellbeing Strategy
- Property Management Strategy
- Urban and Landscape Management Plan[61]
- Construction Traffic Management Plan
- Construction Environment Management Plan
- Construction Noise and Vibration Management Plan
- Detailed design and construction planning.

5.84 Submitters would like to be involved in the design of some of the management plans and be kept fully informed about construction timings and progress through ongoing consultation, including organisations such as the Takanini Business Association, BP Oil New Zealand Ltd,

[58] **NoR1**: BNAP Holdings Ltd (#24); **NoR2**: Takanini Childcare Investments Ltd (#15)
[59] **Nor2**: Mr. Hogan (#9)
[60] **NoR 1**: Takanini Business Association Inc (#4), Halls Transport (#29); **NoR 2**: Takanini Business Association Inc (#3)
[61] **NoR 1**: Z Energy Ltd (#42); **NoR 2**: Z Energy Ltd (#22)

Z Energy Ltd, Halls Transport, Ministry of Education, and Oceania Group. The Ministry of Education requests that amendments are made to ensure consistency with the changes made to the Te Tupu Ngātahi Warkworth NoR, including the requirement to identify a list of key stakeholders and affected properties and submit this record with any Outline Plan of Works.[62]

5.85 Due to the adverse operational effects likely to occur on their business site, Z Energy Ltd[63] requests more specific recognition of design considerations that need to be investigated at the design stage and proposes that a condition should be introduced to remove ambiguity. They request that consultation with affected owners and occupiers needs to be given more weight in decision-making and be given priority, i.e. feedback should be required to be considered by the requiring authority (Proposed Condition 8 Management Plans and Proposed Condition 14 Existing property access). They go further to suggest that a schedule of affected sites should be prepared and identified as part of Proposed Condition 9 (Stakeholder and Community Engagement Plan). This suggestion is consistent with views expressed in the Joint Witness Statement (Planning – Conditions) dated 20 September 2023 submitted to the Hearing Panel for the North West NORs). They also propose that the SCEMP and CTMP should be amended to require affected parties to be engaged with to participate in drafting of the management plan.

5.86 The Papakura Local Board requests that a public information campaign is run after the decision on the NoRs is made to help educate the community about the reasons why the decision has been made.[64]

5.87 Best practice management of social impacts requires clear and transparent communication with affected stakeholders and requests that require submitters (affected parties) to be involved in any planning stages should be accepted. Both parties should work together to achieve the best possible outcomes for the community from the project. Continuing with public information briefings, including through alerting residents to the proposed website is an important way of communicating with the wider community.

5.88 Oceania Group are the care providers at the Aged Care Home on Taka Street and request the following outcomes:[65]

- Existing levels of service for access to the site with new parking and access provided from Takanini Road.
- Improving accessibility for delivery and emergency service vehicles between the proposed slip lane and Takanini Road, and providing a dedicated safe evacuation zone.
- Ensuring that vehicles do not need to enter their site and can turn around within the slip lane without entering their site.
- Provide the current number of parking spaces in an off-street location that is accessible for staff and visitors during and post construction.
- Ensure that safe and legible access to public transport stops is provided.

[62] **NoR1**: Ministry of Education (#36); **NoR2**: Ministry of Education (#16)
[63] **NoR 1**: Z Energy Ltd (#42); **NoR 2**: Z Energy Ltd (#22)
[64] Papakura Local Board Open Minutes 13 December 2023
[65] **NoR1**: Oceania Healthcare (#11))

- Provision of landscaping along the Taka Street frontage to maintain amenity and street presence.

5.89 It is clear from the SIA and the submission by Oceania Group that there will be significant impacts to access and parking operations at their business that serves a vulnerable community. Best practice management of social impacts requires clear and transparent communication with affected stakeholders and the requests from Oceania Group to be involved in any planning and design should be accepted. Both parties should work together to achieve the best possible outcomes to ensure that the business can continue to operate from the site.

5.90 Auckland Council requests that the requiring authority mitigates or remedies the loss of the public open space caused by NoR1 in a strategic location that is in proximity to the area taken from 24R Taka Street.[66]

5.91 This is a valid concern as parks are an important place to undertake activities that foster social connections and improve health and wellbeing. As the environment transitions to higher residential densities, there will be greater requirements for open space. The SIA recognises the long-term effects on Takaanini Reserve. The project team will need to discuss issues with Auckland Council to design long-term solutions to ensure that appropriate levels of service are provided in the surrounding neighbourhoods.

5.92 Watercare requests a new condition requiring the preparation of a "Network Utility Strategic Outcomes Plan (NUSOP)" be added to both NoRs to futureproof assets in consultation with network utility operators.[67] The objective will be to "set out a strategic framework for asset resilience that includes consideration of growth, corridor protection and asset renewals over time". Any feedback from the Network Utility Operators shall be considered when finalising the plan and asset owners will be consulted.

5.93 If the NUSOP approach is not adopted, then they request the following changes to the Network Utility Management Plan condition; that the plan is prepared after consultation with Network Utility Operators during the feasibility and detailed design phase to enable the development of new utility facilities including access to power, water services, and ducting.

5.94 This viewpoint is consistent with the views of the Telecommunications Submitters who have described the importance of integrating necessary services into infrastructure projects to enable the design and construction of services at the same time as construction rather than having to retrofit them at a later date.[68] Their request cites conditions that were incorporated in the Auckland East West Link and Warkworth and Wellsford projects as good examples of such conditions.

5.95 The requests from network utility and telecommunications operators to co-ordinate efforts to ensure that infrastructure maintenance and installation occurs at the same time as transport infrastructure construction is a practical way of reducing the inconvenience to transport network users by avoiding on-going construction effects if they do not occur in tandem. Engagement with the network utility providers should occur during the design phase to ensure

[66] **NoR1**: Auckland Council (#34),
[67] **NoR1**: Watercare (#41); **NoR2**: Watercare (#21)
[68] **NoR1**: Telecommunications Submitters (#8); **NoR2**: Telecommunications Submitters (#7)

that any necessary improvements can be incorporated within project time frames. If conditions are required to ensure that this does happen, then I support this request.

6.0 Comment on SGA Proposed Conditions

6.1 Aside from my responses to submitters' requests regarding the proposed conditions, I have two key issues with the proposed conditions that remain unresolved after the s92 request.

6.2 The first issue is that the SIA recommends a range of 'Planning Management Strategies' including a 'Development Response Plan', 'Community Health and Wellbeing Strategy', 'Property Management Strategy', and 'Good Neighbour Policy', however there is no evidence that these strategies have been incorporated in the conditions. This was queried at point SIA2 of the s92 request, and the response received was that the SIA makes recommendations that cover impacts within the "RMA regulatory framework and beyond" and that the "proposed conditions are intended to be read as a whole". In the applicant's opinion:

- "Matters raised in the CHWS recommendation have been included in the proposed Project Information condition."
- The CEMP condition and CNVMP conditions both provide for "respite and relocation".
- The SCEMP and CTMP cover "matters relating to managing impacts on people and businesses from construction activity".

6.3 The PIC (Condition 2) refers to a project website being established within 12 months of the establishment of the designation and written notification to all directly affected owners and occupiers regarding the existence of the virtual information resource once it is established. There are no provisions explicitly stated in the condition that list who those affected parties may be or how those parties may provide feedback to the project team and discuss design changes, as highlighted by some submitters. An important consideration is ensuring that property owners and occupiers who are not immediately affected by the designations but will be affected by significant bridge structures are also aware of plans and the likely impacts. Therefore, a wider public information campaign, as recommended by the Papakura Local Board, that specifically makes the wider community aware of the proposal, is essential. There is also no specific mention of the CHWS or how it fits within the PIC. An explanation should be provided at the hearing about the key elements of a CHWS and how the PIC ensures that these steps will be followed as the applicant's SIA recommends the CHWS as an important mitigation strategy. In my opinion, the intent of the CHWS is reflected in my proposed recommended new Development Response Management Plan condition in association with the proposed CEMP condition.

6.4 The SCEMP (Condition 9) makes provision for identifying which community members and stakeholders shall be engaged with and when ("at least 18 months prior to any Outline Plan being submitted for Construction of a Stage of Work"). The emphasis of that condition appears to be on preparing for construction and providing information about timings and locations of that work.

6.5 As the conditions stand, there is a gap in the timeframe where those who have had a designation applied to their property will only have a website to refer to so they can understand what is proposed (PIC), prior to the point at which they are directly contacted to be provided with information about when construction is starting and what that means for their properties (SCEMP). Given the length of the designations, some property owners may be in a

state of limbo for more than ten years which will lead to uncertainty, stress, and frustration, as has already been highlighted in many submissions. Those who want to exit their properties will be uncertain about when the best time is to start the PWA process. People or businesses that are new to the area after the initial notification may be uninformed about plans and timeframes, if they miss the initial notification and are unaware of the existence of a website. Some regular and ongoing communication of the existence of the website would be useful to refresh the minds of the community about its existence, and to inform new community members. The proposed amendments to the Project Information condition below addresses this suggestion. There should also be opportunities for ongoing dialogue with the Project team over this period which is informative enough to ensure that individuals do not need to seek independent advice at their own cost. That is, communication should include options for the ability to engage and ask questions, and not be limited to a statement of facts such as a website provides. The proposed amendments to the Project Information condition below also addresses these concerns.

6.6 The CEMP condition (15) seeks to set out strategies to avoid, remedy or mitigate any adverse effects arising from construction. There is no mention of the 'Good Neighbour Policy' in this condition, though some aspects of what might be included in such a policy appear to be included in the condition. My understanding is that such a policy would seek to educate workers about respecting community members and their properties, including ensuring privacy is not breached so that community members continue to feel safe in their homes and places of work. An explanation should be provided at the hearing about the key elements of a GNP and how the CEMP Condition ensures that these strategies will be followed as the applicant's SIA recommends the GNP as a mitigation strategy and this appears to not be covered adequately. I have proposed changes to the CEMP below to address these concerns.

6.7 The CEMP condition does not provide specific details that are recommended as part of the DRMP suggested in the SIA. The DRMP recommendations in the applicant's SIA includes good communication, providing supporting strategies such as business advisory services, wayfinding, cleanliness, noise monitoring, placemaking, pedestrian access and improvements to building frontages. The SIA recommends that committees/steering groups are established including members of the business community as well as the Project team as best practice. Many submitters have requested to be involved in such groups. The SIA goes further to suggest that advisory services may include providing advice to the ECEs about possible alternative locations, and in my opinion, this is a service that should be offered to all affected businesses, as some businesses that rely on large sites are going to struggle to find alternatives within the immediate community, particularly if given limited time to do so.

6.8 An important SIA philosophy is to constantly monitor changes occurring in the surrounding environment to understand who is living, working, using spaces, and moving through affected communities, and to update any concerns about the likely effects as the community changes. Given the long lapse periods for these designations, and the applicant's recognition that the environment is highly likely to be undergoing change and transformation, it will be important to understand what those changes have been and if any new parties are affected by the time that construction commences. The proposed new DRMP condition will fulfil this obligation.

6.9 The CEMP condition does not provide specific details that were recommended as part of the Property Management Strategy as suggested in the SIA. This plan is intended to provide processes for managing acquired properties to reduce the potential for anti-social behaviour,

including a range of solutions such as removing buildings, maintaining and leasing properties, or encouraging temporary community uses for the land and buildings.

6.10 Some of these elements are included in the SCEMP condition and the CTMP condition (18) which has the primary purpose of avoiding, remedying, or mitigating adverse construction traffic effects and the CNVMP condition (21) which primarily addresses the management of construction noise and vibration standards.

6.11 The aspects that are not clearly identified in the conditions include when in the process supporting business advisory services should be provided, how placemaking will be encouraged, and how improvements to building frontages should be undertaken. The business advisory services recommendation needs to happen well ahead of the CEMP due to the long-term planning considerations for businesses. As does ensuring that acquired properties do not fall into disrepair or be taken up with anti-social activities. I recommend that new conditions that specifically provide for the activities that need to be undertaken in the 'in between' period are developed to ensure that adverse social impacts are minimised, and community members are provided with more certainty. I have provided two new suggested conditions (DRMP and PMS) to address these concerns.

6.12 Queries about the PWA process were also issued in the s92 request at point SIA5. The applicant's response is that the PWA process is beyond the scope of the RMA regulatory framework. However, the PIC provides "a virtual information source so that affected parties can access [this] information and advice". The information and advice refers to the explanation that was provided in response to SIA5 about how easy it would be to access financial compensation for property owners and occupiers. That explanation does acknowledge that social impacts that fall within the RMA framework, as the social impacts discussed in this evidence do, but can be addressed by a mechanism that falls outside the framework.

6.13 In my opinion, the Project team should provide an advisory service to affected parties so that they can discuss their options and get clear and correct information about the process at no additional cost to them to allow for them to make decisions about how (and when) to engage with the PWA process after the electronic resource is made available to the community and ahead of the CEMP.

6.14 There are also concerns about the social impacts of anti-social behaviour that may arise from utilising the spaces under the bridges for recreation and movement between opposite sides of the road and from the potential underpasses proposed by Kāinga Ora as an alternative to the above rail crossings. I agree with the evidence of Mr. Evans in relation to urban design and safety and consider that the CPTED principles contained in Condition 12 (ULDMP) are sufficient to address concerns surrounding anti-social behaviour.

6.15 The proposed changes to relevant conditions as described earlier in this section and Section 5.0 are below.

6.16 Project Information (condition 2)

(a) A project website, or equivalent virtual information source, shall be established within 12 months of the date on which this designation is included in the AUP.

(b) All directly affected <u>and adjacent</u> owners and occupiers shall be notified in writing once the website or equivalent information source has been established.

(c) The Requiring Authority will publicise the decision outcomes and location of the website throughout the community using relevant media sources and languages, at least on an annual basis throughout the project until completion.

(d) The project website or virtual information source shall include these conditions and shall provide information on:
  (i) the status of the Project,~~.~~ including ongoing engagement and activities in relation to implementation of the management plans;
  (ii) anticipated construction timeframes; ~~and~~
  (iii) contact details for enquiries;
  (iv) the implications of the designation for landowners, occupiers, and business owners and operators within the designation, and where they can receive additional ~~advice~~ support;
  (v) a subscription service to enable receipt of project updates by email; and
  (vi) when and how to apply for consent for works in the designation under s176(1)(b) of the RMA.

(e) ~~(b)~~ At the start of detailed design for a Stage of Work, the project website or virtual information source shall be updated to provide information on the likely date for Start of Construction, and any staging of works.

(f) The project website or virtual information source shall be updated to provide a copy of all SCEMPs, and of all Management Plans outlined in Condition 7 as they are developed for a Stage of Works.

6.17 I propose changes to Condition 7 to incorporate a new management plan (outlined later) to include the recommendations made in the applicant's SIA to include a DRMP.

Outline Plan (condition 7)

(a) An Outline Plan (or Plans) shall be prepared in accordance with section 176A of the RMA.

(b) Outline Plans (or Plan) may be submitted in parts or in stages to address particular activities (e.g. design or construction aspects), or a Stage of Work of the Project.

(c) Outline Plans shall include any management plan or plans that are relevant to the management of effects of those activities or Stage of Work, which may include:
  (i) Construction Environmental Management Plan;
  (ii) Construction Traffic Management Plan;
  (iii) Construction Noise and Vibration Management Plan;
  (iv) Urban and Landscape Design Management Plan;
  (v) (Tree Management Plan; ~~and~~
  (vi) Network Utilities Management Plan; and
  (vii) Development Response Management Plan.

6.18 Stakeholder Communication and Engagement Management Plan (SCEMP) (condition 9)

(a) A SCEMP shall be prepared in consultation with stakeholders, community groups and organisations
(b) The objectives of the SCEMP are to: ~~is to~~
  (i) Identify how the public and stakeholders (including directly affected and adjacent owners and occupiers of land) will be proactively engaged with prior to and throughout the Construction Works.
  (ii) Develop, maintain and build relationships with the wider public and diverse stakeholders (including directly affected and adjacent landowners e.g. businesses, community organisations, households and their tenants),
  (iii) Provide opportunities for those new to the area to find out about and engage with the project;

(c) To achieve the objective, of the SCEMP:

(i) At least 18 months prior to any Outline Plan being submitted for Construction of a Stage of Work, the Requiring Authority shall identify:

A. The properties whose owners <u>and occupiers</u> will be engaged with;

B. A list of key stakeholders, community groups, organisations and businesses <u>including Papakura Local Board, Manurewa Local Board, Franklin Local Board, Takanini Business Association, Ministry of Education, Kāinga Ora, KiwiRail Holdings Limited, Fire and Emergency New Zealand, Auckland Council Parks, and Network Utility Providers</u> who will be engaged with<u>.</u>

C. Methods and timing to engage with landowners and occupiers whose access is directly affected.

D. <u>Methods to engage and consult with the public, key stakeholders, community groups, organisation and businesses.</u>

(ii) The SCEMP shall include:

A. Details of ~~(b)~~<u>(c)</u>(i)A to <u>D</u> ~~C~~;

B. the contact details for the Project Liaison Person. These details shall be on the Project website, or equivalent virtual information source, and prominently displayed at the main entrance(s) to the site(s);

C. the procedures for ensuring that there is a contact person available for the duration of Construction Works, for public enquiries or complaints about the Construction Works;

D. methods for engaging with Mana Whenua, to be developed in consultation with Mana Whenua;

E. methods to communicate key project milestones and the proposed hours of construction activities including outside of normal working hours and on weekends and public holidays, to the parties identified in ~~(b)~~(c)(i)A to <u>D</u> ~~C~~ above; ~~and~~

F. linkages and cross-references to communication and engagement methods set out in other conditions and management plans where relevant;

G. <u>details of opportunities to strengthen the relationship of the Requiring Authority with key stakeholders and the wider community;</u>

<u>H. A record of the consultation undertaken with Mana Whenua and the community, including summaries of feedback and any response given or action taken by the Requiring Authority as a result of that feedback; and</u>

<u>I. Any outcomes or actions undertaken in response to feedback, as well as public complaints that are not covered by Condition 16 (Complaints Register).</u>

<u>(d)</u> ~~(c)~~ Any SCEMP prepared for a Stage of Work shall be submitted to Council for ~~information~~ <u>certification</u> ten working days prior to the Start of Construction for a Stage of Work.

6.19 Construction Environmental Management Plan (CEMP) (Condition 15)

(a) A CEMP shall be prepared prior to the Start of Construction for a Stage of Work. The objective of the CEMP is to set out the management procedures and construction methods to be undertaken to, avoid, remedy or mitigate any adverse effects associated with Construction Works as far as practicable. To achieve the objective, the CEMP shall include:

(i) the roles and responsibilities of staff and contractors;

(ii) details of the site or project manager and the Project Liaison Person, including their contact details (phone and email address);

(iii) the Construction Works programmes and the staging approach, and the proposed hours of work;

<u>(iv)Development of the Good Neighbour Policy including a schedule for educating construction workers on expectations associated with ensuring that the surrounding community (landowners, occupiers, businesses, and social organisations) feel safe and respected;</u>

(v) (~~iv~~) details of the proposed construction yards including temporary screening when adjacent to residential areas, locations of refuelling activities and construction lighting;

(vi) (~~v~~) methods for controlling dust and the removal of debris and demolition of construction materials from public roads or places;

(vii) (~~vi~~) methods for providing for the health and safety of the general public;

(viii) ~~(vii)~~ measures to mitigate flood hazard effects such as siting stockpiles out of floodplains, minimising obstructions to flood flows, actions to respond to warnings of heavy rain;
(ix) (~~viii~~) procedures for incident management;
(x) (~~ix~~) procedures for the refuelling and maintenance of plant and equipment to avoid discharges of fuels or lubricants to Watercourses;
(xi) (~~x~~) measures to address the storage of fuels, lubricants, hazardous and/or dangerous materials, along with contingency procedures to address emergency spill response(s) and clean up;
(xii) (~~xi~~) procedures for responding to complaints about Construction Works; and
(xiii) (~~xii~~) methods for amending and updating the CEMP as required.

6.20 Two new proposed conditions are outlined below. Each of these originates from conditions that were recommended by Hearings Panel to the Requiring Authority for the Airport to Botany NoR and the City Rail Designation with some minor changes as appropriate for the Takaanini location.

6.21 Development Response Management Plan (new recommended condition)

(a) A DRMP shall be prepared prior to the Start of Construction for a Stage of Work.
(b) The objective of the DRMP is to provide a framework and suite of strategies and measures in consultation with local business and community stakeholders that assist those directly affected by the Project (including directly affected and adjacent owners (e.g. businesses, community organisations, households, and their tenants) to manage the impacts of construction and to maximise the opportunities the Project presents.
(c) Business Associations and Community groups representing businesses and residents within the relevant Stage of Work shall be invited no later than 18 months prior to the Start of Construction for a Stage of Work, to participate in the development of the DRMP.
(d) To achieve the objective, the DRMP shall include:
  (i) A list of those likely to affected by the Project
  (ii) Recommended measures to mitigate impacts on those identified as affected by the Project associated with construction effects such as the potential loss of visibility of businesses from public spaces, reduction in accessibility and severance, loss of amenity, mental and physical health effects, and relocation. Such mitigation measures may include business support, business relocation, temporary placemaking and place activation measures and temporary wayfinding and signage, and mental health support and advice.
  (iii) Identification of opportunities to coordinate the forward work programme, where appropriate with infrastructure providers and development agencies.
  (iv) Recommended measures to mitigate effects on the operation and financial wellbeing of community organisations and sports clubs;
  (v) Recommended measures to mitigate the loss of community facilities, assets and open space based on stakeholder feedback during the SCEMP process, including, but not limited to, means for funding and implementing the mitigation. Mitigation that is not contingent on Construction Works being completed must be implemented prior to construction commencing.
  (vi) Recommended measures to provide support for anxiety and mental health outcomes;
  (vii) Recommended hardship assistance package and hardship fund to be available for compensation to landowners, tenants, and adjacent property owners and details of how people will qualify for assistance.
  (viii) Recommended assistance for residential and business tenants, leaseholders or owners who are asked to move during the works.
  (ix) Measures to achieve positive social outcomes, which may include supply chain opportunities, education, training and employment opportunities including partnerships with local business associations and community organisations, and by working with local organisations repurposing and recycling of demolition materials.
  (x) Identification of any other development response measures designed to support those businesses, residents and community services/facilities affected during construction
  (xi) A record of the activities and assistance provided as a result of the measures listed in (ii)-(ix).

Commented [RF1]: Consider the other bits that I inserted here yesterday

(xii) Linkages and cross-references to communication and engagement methods set out in other conditions and management plans (e.g the SCEMP) where relevant.

6.22 Property Management Strategy (new recommendation condition)

(a) The Requiring Authority shall prepare and submit to Council for Certification a PMS within 12 months of the date on which this designation is included in the AUP:OP,

(b) Within 40 working days of receiving written notice of Certification of the PMS by Council, the Requiring Authority shall notify in writing all directly affected owners and occupiers that the PMS is available on the Project Information website or equivalent that is required under Condition 2.

(c) The purpose of the Strategy is to set out how the Requiring Authority will ensure the properties acquired for the Takaanini Level Crossings Projects are appropriately managed so they do not deteriorate and adversely affect adjoining properties and the surrounding area.

(d) The Strategy shall identify measures and methods to ensure the properties are managed in a manner that:
(i) does not significantly change the character, intensity and scale of the effects of the existing use of the land;
(ii) maintains the condition of the property at that which existed at the time of purchase by the Requiring Authority;
(iii) Contributes to the functioning of the area within which the property is located;
(iv) Maintains occupancy as far as reasonably practicable; and
(v) Provides confidence to occupants, adjoining property owners, and the community that the properties are managed responsibly pending construction.

7.0 Recommendations

7.1 In my opinion the NoRs will have significant positive outcomes for the wider communities by removing safety and congestion issues associated with the existing level crossings which are likely to become worse in the future. The proposal is consistent with the direction and framework of the Auckland Unitary Plan (AUP), including giving effect to the Regional Policy Statement ("RPS").

7.2 I confirm that the SIA undertaken by the applicant is thorough and has considered the range of social effects that may arise from the proposed changes and highlighted that many of those effects will be very significant to immediately affected parties. There has been an appropriate level of effort put into contacting and communicating with affected parties, though there has been frustration expressed by submitters potentially due to the limited information currently available.

7.3 I have outlined my specific recommendations with respect to submitters' concerns about the proposed conditions in Section 5.0, and my concerns about the lack of clarity of how suggestions in the SIA about mitigation strategies have not been incorporated in conditions in Section 6.0. Several matters were widely raised in submissions and require more clarification and incorporation of specific provisions in the conditions to guarantee that issues identified in the SIA and submissions are adequately addressed.

7.4 An explanation should be provided by the Requiring Authority about the reasons for the differences in the total numbers of affected properties contained in Table 8-1 of the AEE and Table 3-1 of the SIA at the hearing, and guidance about which numbers are correct.

7.5 An explanation should be provided by the Requiring Authority at the hearing about the key elements of a CHWS and how the PIC ensures that these steps will be followed as the applicant's SIA recommends the CHWS as an important mitigation strategy. The conditions

that I have proposed for the DRMP combine what I would expect to be involved in a CHWS with a DRMP.

7.6 An explanation should be provided at the hearing about the key elements of a GNP and how the CEMP Condition ensures that these strategies will be followed as the applicant's SIA recommends the GNP as a mitigation strategy and this appears to not be covered adequately. The amended conditions that I have proposed to the CEMP have addressed what I would expect needs to be included.

7.7 Many submitters have highlighted that they have an active interest in the design of the proposed new transport routes and the likely effects on their properties, businesses, and the surrounding transport network. This registration of interest should be recorded as part of the Project Information condition, and those parties should be invited to participate in future stakeholder group or individual meetings. The list of key stakeholders should extend out to other parties in the wider environment rather than solely those properties directly affected by the property designations. Ongoing clear and open communication is an important mechanism for avoiding grievances and placing additional stress on residential and business owners and occupiers and users of social infrastructure.

7.8 In addition to those recommendations, it will be important to ensure that Auckland Council is provided with the ability to review any of the plans that are identified in the conditions to ensure that the social effects of each stage are adequately considered.

7.9 Overall, I support the NoRs, but consider that the mitigation strategies proposed by the applicant's SIA are better incorporated in revised or new conditions and that particular consideration is given to how information is communicated to affected parties through advisory services in the long period between the PIC and the CEMP so that concerns can be actively discussed, directly affected parties can easily access PWA compensation, and community views can be incorporated into designs.

Auckland Council memorandum (technical specialist report to contribute towards Council's section 42A hearing report)

23rd February 2024

To: Joy LaNauze, Senior Policy Planner, Central/South Planning Team

From: Trent Sunich, Consultant Flood Hazard and Stormwater Technical Specialist

Subject: Takanini Level Crossings Notices of Requirement – Stormwater and Flood Hazard Technical Assessment

1.0 Introduction

My name is Trent Sunich, I hold a Bachelor of Technology (Environmental) which I obtained from the Unitec Institute of Technology in 2001. I have 20 years' plus experience in the field of natural resource management and environmental engineering. My expertise is in integrated catchment management planning, flood hazard assessment, stormwater quality management, and assessing associated development related stormwater effects where previously I have held roles with the Auckland Regional Council and URS New Zealand Limited. I am currently employed by SLR Consulting (formerly 4Sight) as a Principal Environmental Consultant. I have reviewed and reported on the Warkworth to Wellsford motorway project Notice of Requirement on behalf of Healthy Waters who are the Auckland Council's stormwater network operator. I have also been the reporting stormwater technical specialist to Plan and Places of the Auckland Council for the proposed residential and commercial private plan changes 48, 49 and 50 and the Drury NoRs 1-5 ,consisting of State Highway 22 upgrades and the construction of new local roads.

My involvement in the project has been from March 2023 where I was commissioned to review the relevant reports for the NoRs, any information requests/responses, and review/assess the relevant submissions culminating in the findings of this memorandum. I attended a project briefing April 2023 and attended a site visit with other technical specialists on 27 April 2023.

In writing this memo, I have reviewed the following documents:

- Takaanini Level Crossings Assessment of Effects on the Environment, October 2023, Version 1.0.
- Takaanini Level Crossings Assessment of Flooding Effects, October 2023, Version 1.0.
- Form 18 for NoRs 1-2.
- General Arrangement Plans for NoRs 1-2.
- Re: Council Request for further information in accordance with section 92 of the Resource Management Act 1991 in relation to lodged documents for: Notices of Requirement given by Auckland Transport for the Takaanini Level Crossing Project.

2.0 Code of Conduct

I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 and have complied with it in preparing this evidence and agree to comply with it when giving any oral evidence to the Hearing. Other than where I state that I am relying on the advice of another person, this evidence is within my area(s) of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

I have qualified my evidence where I consider that any part of it may be incomplete or inaccurate, and identified any information or knowledge gaps, or uncertainties in any scientific information or mathematical models and analyses that I am aware of, and their potential implications. I have stated in my evidence where my opinion is not firm or concluded because of insufficient research or data or for any other reason and have provided an assessment of my level of confidence, and the likelihood of any outcomes specified, in my conclusion.

3.0 Perceived Conflict of Interest - Declaration

I note that SLR Consulting recently acquired 4Sight Consulting and that members of the 4Sight (now SLR) planning team have been engaged by Z Energy Limited to prepare submissions on their behalf. I can confirm that I have had no previous contact with people involved in the preparation of submissions in this regard and that I have been engaged to act on behalf of Auckland Council for the purpose of reviewing the notices of requirement as described below. I declare that I have no conflict of interest with the submitters.

4.0 Scope and Structure

This memorandum summarises the findings of my review on behalf of Plans and Places of the Auckland Council for the Takanini Level Crossings (TLC) project Notices of Requirement (the NoRs) which are:

- Takaanini Level Crossings Project 1 Upgrade (NoR 1).
    - Spartan Road
    - Manuia Road
    - Manuroa Road
    - Taka Street
- Takaanini Level Crossings Project 2 Upgrade (NoR 2).
    - Walters Road

My assessment considers flood hazard and overland flow path effects during construction as well as the long-term effects of operating roads. Where appropriate I have also commented on management of operational stormwater discharges from the project, however this matter is largely out of scope currently and will be subject to future regional plan resource consent applications and assessment reflecting the stormwater management related rule sets in the Auckland Unitary Plan (AUP). Notwithstanding this it is important to consider that suitable land area will be available within the designation to construct and operate the stormwater management devices receiving runoff from the carriageway impervious surfaces.

This memorandum is structured as follows:

- Summary of Key Issues.
- Comment on the Assessment of Effects by Supporting Growth Alliance.
- Review and Assessment of Submissions.
- Comment on the Requiring Authority Proposed Conditions.
- Objectives and Policies.
- Conclusions and Recommendations.

5.0 Summary of Key Issues

Assessment of flood hazard during construction and post development for each of the NoRs has been documented in the report entitled ‘Takaanini Level Crossings Assessment of Flooding Effects’ (‘the Flood Hazard Report’). In the context of constructing and operating each of the NoR routes, the Requiring Authority has concluded that flood hazard effects may include changes to; the flood freeboard to existing habitable buildings, overland flow paths; the ability to access property by residents and emergency vehicles; and the level of flooding to roads, cycleways and footpaths.

<u>Flood Hazard Assessment</u>

In order to assess these flood hazard effects, a consistent methodology was applied by the Requiring Authority for each NoR route where each step is summarised as follows:

- Desktop assessment to identify potential flooding locations, namely:
    - Using the Auckland Council (Council) and Te Tupu Ngātahi Supporting Growth (Te TupuNgātahi) Geographic Information System (GIS) to identify where existing buildings appear to be near/within the existing flood plains; and
    - Using the Council and Te Tupu Ngātahi GIS to identify where the Project involves work near stream crossings/major overland flow paths (OLFP).
- Inspection of other flood modelling sources (updates and adjacent projects) to identify refine and validate flood assessments. At key cross drainage locations such as bridges or culverts

and where there are noticeable changes in flood extents or flood levels, consideration was given to flood hazard issues;
- Review of all external drainage flow paths entering the project areas and assessing the effects of the development on the upstream flood levels. Mitigation optioneering was required where effects were found to be unsatisfactory; and
- Hui with Manawhenua and listening to the flooding concerns of the catchment.

Following this methodology, the assesment of operational flood effects for the project was based on the 100-year flood model results for the present-day (existing) terrain with a 2.1º climate change consideration and a maximum probable development (MPD) catchment imperviousness coverage. This assessment considers the flooding extents at existing culvert crossings and along existing roads. The following matters have been considered as part of this assessment:

- Existing flooding and freeboard at key points identified from modelling the existing terrain;
- The potential of flooding on existing properties due to the new project corridor geometry; and
- Incremental changes to the corridor impervious area.

Potential mitigation measures have been scoped so that flood effects are adequately addressed during the future detailed design stage of the project and that adverse flood effects are avoided, remedied or mitigated.

The Flood Hazard Report notes that consideration of 2.1º of climate change is consistent with Section 4.2.10 of the Auckland Council Stormwater Code of Practice V3 (2022). Consideration for 3.8º climate change increase is recommended at a future design stage to ascertain the projects performance under more extreme flood conditions. This matter is discussed futher in the assessment of effects section of this memorandum and draft designation condition set.

Each project area will generate similar operational flood effects based on the degree of floodplain volume displacement or the presence of an obstructed overland flow path (OLFP) as is discussed in the following subsection.

Key Issue Summary

Based on the flood hazard assessment, the following table summarises the findings for each project area identifying key flood hazard issues, and for completeness, project areas where no operational flood hazard effects are expected

Table 1: Flood Hazard Issues for TLC Projects

Notice of Requirement	**Key Flood Hazard Issues**
NoR 1: Spartan Road and Manuroa Road	Operational flood effects at Spartan Road and Manuroa Road will be minimal as there is negligible to zero storage displacement nor redirection of flow paths. Therefore, no operational flood effects are expected at these locations
NoR 1: Manuia Road	• Flood depths within the footprint area will be displaced by fill earthworks and generate a localised increase in flood levels. • Compensatory cut earthworks will be required to maintain a neutral flood effect. • A culvert is required for flow path continuity on the northern side of the railway line and a widened bridge across the rail will allow the OLFP to continue to flow along the railway tracks to the south. • Freeboard to these houses upstream of the proposed culvert is presently around 1.3m which means the flood sensitivity of these residential properties from the Manuia Road level crossing works is low to negligible.
NoR 1: Taka Street	• This project area includes the removal of the existing level crossing and replacement with a new bridge structure across the rail.

Notice of Requirement	Key Flood Hazard Issues
	• This new bridge will avoid a large amount of flood effects that could have otherwise been generated by an earthworks embankment design. • The greatest depth of flooding is noted at the Great South Road end of the works (western tie-in) where fill earthworks will generate a localised increase in flood levels. • Compensatory cut earthworks will be required to maintain a neutral flood effect.
NoR 2 Walters Road	• The flood depths within the road footprint area are minimal and displacement effects are expected to be negligible. • The OLFP across the Arion Road – Walters Road intersection will be altered by the elevated road section and will cause flood effects to the upstream residential area in the vicinity of the Arion Road – Walters Road intersection. • Flood waters are expected to be trapped in the eastern corner of the Braeburn Place and Walters Road intersection which could cause flood effects to nearby residential properties.

6.0 Comment on the Assessment of Effects by Supporting Growth Alliance

The NoRs are proposed to be constructed and operated in the Papakura Stream and Pahurehure Inlet stormwater catchments. As was discussed earlier in this memorandum, this assessment focuses on the flood hazard (overland flow and flood plains) as a result of constructing and operating the designated infrastructure. Where submissions have been raised with respect to the location of stormwater management devices, I have generally deferred this to the Requiring Authority to respond to as is indicated in Appendix 1 of this memorandum.

Flood Hazard Assessment

As a result of constructing and operating each NoR route flood hazard effects may include changes to; the flood freeboard to habitable buildings, overland flow paths, the ability to access property by residents and emergency vehicles, the depth of flooding to roads and flooding arising from the blockage of stormwater drainage.

In order to understand and assess the potential flood hazard effects, the Requiring Authority has utilised existing flood hazard modelling information sourced from the Auckland Council's Healthy Waters department. The assessment focuses on existing topography and flood risk and I queried during the s92 process whether pre and post development scenarios (including the proposed terrain and alignments for each NoR) should have been modelled such as was the case for the Drury NoRs 1-5 which I had a similar role in assessing.

The Requiring Authority indicated that role of the flood hazard assessment at this time is to identify the designation area is sufficient to provide for the alignment construction and operation and any associated works for flood mitigation techniques. On balance I agree with the approach and find the current flood hazard modelling information and associated characteristics sufficient to identify the quantum of effect that current exists for various properties, and correspondingly that will exist in the future when detailed design is completed via the proposed conditions of the Outline Plan process. In principle, the detailed design process will also capture flood hazard that has not been identified in the flood hazard report, but may eventuate as a result of matters such as land use change over the coming decades. Notwithstanding this, I have various comments in relation to the proposed conditions later in this report.

The Auckland Region has experienced extreme weather events recently, in some cases beyond the magnitude (rainfall depth/intensity) of what is typically used as a reference rainfall event in relation to site flood risk assessment. Currently the 1% AEP rainfall event (i.e. 1-in-100 chance of occurring in any one year) is embedded in regional and district objective, policy and rule frameworks, including the influence of climate change to accommodate predictions in rainfall intensity and duration. In this case the flood hazard modelling referred to in the Flood Hazard

Report includes a projected annual average temperature increase by 2090 of 2.1 ºC. During pre lodgement discussions I queried whether the more conservative climate change scenario of 3.8 ºC should be investigated as well. The Requiring Authority responded as follows, also noting that the 3.8º flood hazard model has not yet been created for the subject catchments:

The volume of displacement is proportional to the area of earthworks in the floodplain and the depth of floodwaters. While the displacement volume will increase from the 2.1º 1% AEP flood to the 3.8º climate change adjusted flood levels for each project area, the increased volume will be disbursed over a larger floodplain area. It is our flooding specialists' view that the effects will be similar in both the cases.

I am comfortable with this response and consider over time flood hazard prediction will continue to evolve through local and national direction as an evidence base is developed in relation to planning for the influence of more extreme rainfall events. The proposed NoR conditions also need to be sufficiently flexible to accommodate a range of model sensitivity scenarios using the best information available at the time the outline plan of works is submitted (including more conservative climate change scenarios, if that eventuates), noting flood hazard prediction and modelling is not an exact science, but rather a tool to assist with decision making and assessment of the NoRs against the applicable objectives and policies in the AUP.

I conclude that the assessment methodology presented in the Flood Hazard Report and how the model results have been reported at this stage of the project design at this time is fit for purpose. Further, the findings for each NoR route are suitable to understand the quantum of flood hazard effects, albeit being based on existing flood hazard information and current land forms. This conclusion is reached on the basis that further detailed analysis will be carried out during the detailed design phase should the notices of requirement be confirmed, thereby placing some reliance on the effectiveness of the designation conditions and the outcomes sought in relation to floodplain and overland flow path flood hazard management. To assist with the implementation of designation condition implementation, I have recommended edits to the NoR conditions in Section 8 of this memorandum with associated commentary outlining why the edits are recommended.

Flood Hazard Assessment Results Summary and Proposed Mitigation

Overall, it is concluded that the potential flood hazard effects are understood and there is a provision for mitigation through the performance-based requirements stipulated in the respective NoR conditions, noting I have recommended changes to the conditions in Section 8 of this memorandum. It is anticipated understanding of flood hazard effects will continue to be defined as detailed design progresses for each NoR and will include flexibility to capture the potential for the emergence of new flood hazards (e.g. due to concurrent land use change) while also future proofing an evolving science of flood hazard management and prediction in light of the recent flood events and the realisation that climate change is not static.

As was discussed in the assessment above a component of the flood hazard assessment report and its findings was to understand flood hazard features in proximity to the NoR and to demonstrate mitigation options are available. A summary of the mitigation options appropriate to the respective NoR, material to this assessment are listed in Section 4.6 of the Flood Hazard Report and in principle, I agree these mitigation options align with good practice in terms of flood hazard and stormwater management.

Flood Hazard Effects During Construction

In the Flood Hazard Report, the Requiring Authority has discussed the potential location specific flood hazard effects associated with constructing the NoR sections. This is based on the type of work that is anticipated to be carried out (e.g. culvert and bridge abutment construction, cut and fill activities, diversions). Due to the dynamic nature of construction staging it is not typical practice to assess potential flood hazard in the manner that has been completed for the permanent operational phase of the arterial routes. Therefore, a designation condition has been recommended by the Requiring Authority to undertake flood hazard assessment during construction (and associated mitigation) is addressed as part of the Construction Environmental Management Plan (CEMP). This proposed approach is considered satisfactory to assess and or mitigate any temporary flood hazard effects associated with the construction activities. No edits are recommended to the CEMP conditions.

7.0 Submissions

Of the submissions received, a number raised flood hazard management concerns and were all relate to permanent effects following development of the designations. The number of submissions per topic are set out in Table 1 below. Relevant submissions and their assessment have been tabulated in Appendix 1.

Topic	Notice of Requirement	Number of submissions
Permanent (operational) effects	NoR 1	6
	NoR 2	6

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8.0 Comment on SGA Proposed Conditions

I have reviewed the conditions in consultation with Healthy Waters staff and have the following recommendations indicated in underlined (additions), with deletions (~~strikethrough~~). The recommended edits are common to all NoR Flood Hazard condition sets.

I am also providing technical input into reporting by Plans and Places on the Pukekohe Transport Network Project. I have made similar condition recommendations in my reporting on that project and have subsequently discussed conditions with Requiring Authority representatives. The timing of this reporting has not enabled the outcomes of those discussions to be captured here, however could be updated in the hearing when evidence is presented by the Requiring Authority flood hazard specialist.

3. Land Use Integration Process.

The Requiring Authority shall set up a Land use Integration Process for the period between confirmation of the designation and the Start of Construction. The purpose of this process is to encourage and facilitate the integration of master planning and land use development activity on land directly affected or adjacent to the designation. To achieve this purpose:

a. Within twelve (12) months of the date on which this designation is included in the AUP, the Requiring Authority shall include the contact details of a nominated contact on the project website (or equivalent information source) required to be established by Condition (2)(a)(iii).
b. The nominated contact shall be the main point of contact for a Developer or Development Agency wanting to work with the Requiring Authority to integrate their development plans or master planning with the designation.
c. At any time prior to the Start of Construction, the nominated contact will be available to engage with a Developer or Development Agency for the purpose of:
    (i) responding to requests made to the Requiring Authority for information regarding design details that could assist with land use integration; and
    (ii) receiving information from a Developer or Development Agency regarding master planning or land development details that could assist with land use integration
d. Information requested or provided under Condition 3(c) above may include but not be limited to the following matters:
    (i) design details including but not limited to:
        A. boundary treatment (e.g. the use of retaining walls or batter slopes)
        B. the horizontal and vertical alignment of the road (levels);
        C. potential locations for mid-block crossings;
        D. integration of stormwater infrastructure and/or flood hazard management; and
        E. how to access traffic noise modelling contours to inform adjacent development.

13. Flood Hazard.

a. The Project shall be designed to achieve the following flood risk outcomes:

(i) no increase in flood levels in a 1% AEP event for existing authorised habitable, community, commercial, industrial floors that are already subject to flooding ~~or have a freeboard less than 150mm~~;

~~(ii) no more than a 10% reduction in freeboard in a 1% AEP event for existing authorised habitable floors with a freeboard of over 150mm;~~

~~(iii) no increase in 1% AEP flood levels for existing authorised community, commercial, industrial and network utility building floors that are already subject to flooding;~~

~~(iv) no more than a 10% reduction in freeboard in a 1% AEP event for existing authorised community, commercial, industrial and network utility building floors;~~

(ii) Maintain the minimum freeboard requirement as set out in the Auckland Code of Practice for Land Development for Subdivision Chapter 4: Stormwater Version 3.0, January 2022 or any update or replacement of that Code;

(iii) ~~no increase of more than 50mm in flood level in a 1% AEP event on land zoned for urban or future urban development where there is no existing dwelling;~~ No increase in flood plain extent unless a site-specific flood assessment is provided with the Outline Plan that demonstrates there is no reduction in developable land in an urban zone or the Future Urban Zone;

(iv) new overland flow paths shall be diverted away from habitable floors and discharge to a suitable location with no increase in flood levels in a 1% AEP event downstream;

(v) no loss in conveyance capacity or change in alignment of existing overland flow paths, unless provided by other means;

(vi) no new flood prone areas; and

(vii) no ~~more than a 10% average increase~~ detrimental change of flood ~~hazard (defined as flow depth times velocity)~~ classification for main vehicle and pedestrian access to authorised habitable dwellings existing at the time the Outline Plan is submitted. The assessment of flood hazard shall be undertaken for the 10% and 1% AEP rainfall events.

b. Compliance with ~~this~~ condition (a) above shall be demonstrated in the Outline Plan developed in consultation with the Auckland Council Healthy Waters (or its equivalent), which shall include flood modelling of the pre-Project and post-Project ~~100 year ARI~~ 10% and 1% AEP flood levels (for Maximum Probable Development land use and including climate change).

c. Where the above outcomes can be achieved through alternative measures outside of the designation such as flood stop banks, flood walls, raising existing authorised habitable floor level and new overland flow paths or varied through agreement with the relevant landowner, the Outline Plan shall include confirmation that any necessary landowner and statutory approvals have been obtained for that work or alternative outcome.

Commentary On Condition Edits:

Land Use Integration Process Condition:

- d.(i)D: Clarification of the scope to include consideration of flood hazard management matters.

Flood Hazard Condition:

- (i): Simplified condition outcomes with regard to buildings that are already subject to flooding and included other building types, with consequential deletion of (ii), (iii) and (iv). Propose removing metrics around specific numbers (e.g. 150mm) as may become obsolete in the future.
- (ii): Referencing code of practice freeboard requirement, including futureproofing minimum freeboards as the document evolves.
- (iii): Remove 50mm metric as may be a blunt instrument depending on floodplain topography (e.g. confined floodplain vs flood plains that are flat and open). Enable site specific assessment to determine suitability of flood level increase vs land use type.
- (iv) and (v): Introduction of overland flow specific conditions for new and existing overland flow paths to clarify an expectation around their management. (iv) could be a duplication of assessment that will be required with respect to future stormwater discharge consent application requirements but I have conservatively added this as an outline plan outcome.

- (vii): The use of the 10% metric has limited relativity (e.g.10% increase at some sites will have a more significant effect than at other sites where there is no flood hazard). Current flood hazard approaches (e.g. Australian Disaster Resilience Handbook Collection – Flood Hazards Guideline 7-3) provides flood hazard curves related to the risk to people and vehicles, hence the introduction of a classification metric to assess and identify risk.
- (b): AEP vs ARI terminology. It is unclear why the Requiring Authority is using both. Addition of reference to consult with Healthy Waters is self-explanatory as the body who hold regional flood hazard modelling information.

9.0 Objectives and Policies

The natural hazards and flooding related Auckland Unitary Plan objectives and policies relevant to the NoRs are listed as follows:

- B10 Environmental Risk:
  - B10.2.1 Objectives (1) – (6).
  - B10.2.2 Policies (3), (4), (5), (6) (7) (8) and (12).
- E36 Natural Hazards and Flooding:
  - E36.2 Objectives (1) – (6)
  - E36.3 Policies (1), (3, (4), (18), (20), (21), (23), (27), (29), (30) and (35).

Consistent with Chapter B10, the Requiring Authority has identified and assessed current flood risk associated with the NoRs and have used tools such as flood hazard mapping. This has led to decisions around the extent of the designation required and the type of mitigation methods proposed to be employed in the future subject to detailed design and associated post development flood hazard assessment with the designation alignments in place.

The Requiring Authority has also sought to incorporate the influence of climate change projections consistent with Policy B10.2.2. This is also consistent with the precautionary approach to natural hazard risk management and the Requiring Authority has indicated this has/will also include other sensitivity assessments (e.g. surface roughness, percentage culvert blockage, tailwater conditions, impervious surface/ soil infiltration changes) to assess the response of the infrastructure and surrounding land uses to low probability but high potential impact rainfall events.

Although post development flood risk has not be assessed as part of the NoRs, the quantum of flood risk hazard is understood (with the information currently available) such that there is pathway through the proposed designation conditions for mitigation. In consultation with Healthy Waters, I have also recommended condition edits as is discussed in the above section.

Further assessment is required at the Outline Plan stage during detailed design of the NoR works contributing to overall consistency with the B10 and E36 objectives and policies.

10.0 Conclusions and recommendations

The assessment in this memorandum does not identify any reasons to not confirm the NORs, subject to recommended conditions. Further:

- The Requiring Authority has used a fit for purpose flood hazard risk assessment method using a series of steps to establish flood hazard risk areas.
- The flood hazard modelling accounts for the effects of climate change by adjusting for changes in temperature and rainfall patterns in accordance with MfE guidance.
- The flood hazard modelling and reporting of the results is suitable to inform the quantum of flood hazard that exists and whether the designation extent is suitable to implement mitigation practices though the performance related flood hazard designation conditions. Further flood hazard modelling will be required as part of the Outline Plan including modelling of post project landforms and infrastructure.
- Subject to the imposition of the designation conditions as amended by my recommended changes the proposal is consistent with the flood hazard related objectives and policies in the Auckland Unitary Plan.
- In Section 8 of this memorandum, I have recommended condition changes to the land use integration and flood hazard conditions.
- I ask the Requiring Authority to comment on the following matters either in their evidence or at the hearing.

- Clarification regarding the attenuation devices will lead to mosquito issues (Basil Kuriakose Portrush Lane and 6 Signatories).
- Commentary of the submission in relation to 106-162 Great South Road (Dealership Properties Limited)
- Whether the proposed works will affect the properties at 33 Oakleigh Avenue (B&F Papers Limited) and 37-39 Oakleigh Avenue (Aintree Group Ltd).
- Whether the proposed designation works will affect infrastructure within the boundary of the Z Energy sites located at 166-168 Great South Road and 254 Great South Road (Z Energy).

Trent Sunich
Consultant Stormwater Technical Specialist
23rd February 2024

Appendix 1: Relevant Submission Summary and Assessment

NoR 1: Takanini Level Crossings Project

Submitter No.	Name	Submission Point/Issue Raised	Relief Sought	Technical Assessment
12, 15	B&F Papers Ltd 33 Oakleigh Avenue Aintree Group Ltd 37-39 Oakleigh Avenue	Page 47 of the Assessment of the Effects on the Environment highlights that there is a "modified stream channel that connects Oakleigh Ave stormwater pond / modified natural wetland and Scott Field Drive modified natural wetland adjacent to Manuia Road project area." Page 72 of the Assessment of the Effects on the Environment notes that the Project will "improve existing culverts capacities and/or provide new stormwater infrastructure which improve ponding and stream flow in the area", but it is not made clear whether this will affect properties nearby.	As in submission	This is a matter for the Requiring Authority to clarify at the hearing. This property has not been discussed in the Flood Hazard Report.
18	Dealership Properties Limited 106-162 Great South Rd	We have a RC currently in process that the proposed alteration conflicts with.	We do not wish the proposed alteration to be approved from council.	I invite the Requiring Authority to respond to this matter at the hearing. It is understood this submission relates to the designation extent and proposed attenuation device at 162 Great South Road, Takanini.
33	KiwiRail Holdings Limited	Prior to the start of detailed design, and throughout the design process, Kiwirail requires ongoing dialogue and engagement to resolve the following issue: - future swale and overland flow solutions will require a coordinated approach by Auckland Transport and KiwiRail. - at Spartan Road the major drainage swale/overland flow path in the rail corridor may conflict with footbridge. This needs to be considered in future design work including the reprovision of drainage infrastructure to prevent overland flow into the rail corridor.	As in submission	I agree with this submission which could be managed by the proposed Land Use Integration Process condition or directly between KiwiRail and Auckland Transport.

Submitter No.	Name	Submission Point/Issue Raised	Relief Sought	Technical Assessment
42	Z Energy Limited 166-168 Great South Road Takanini	Changes will result in significant adverse effects on Z Takanini at 166-168 Great South Road Takanini, including stormwater, and will almost certainly require a redesign of the site. Little to no evidence of these effects having been adequately assessed.	Decline the NoR or amend it to respond to the concerns of the submitter.	Effects on the inner working of sites including stormwater infrastructure across the NoR affected by the designation boundary are a matter for the Requiring Authority to respond to at the hearing. It is understood from the submission that the proposed attenuation device location has been moved to the opposite corner at 162 Great South Road Takanini.
45	Basil Kuriakose Portrush Lane and 6 Signatories	Clarity sought about blue triangle/pool on map and whether it is for water. Mosquito spraying sought.	As detailed in submission.	The design of the stormwater attenuation devices was clarified during pre-lodgment discussions with the Requiring Authority where the attenuation devices are anticipated to be an excavated area at the culvert invert level with a planted, excavated sand and loam filled bed (high hydraulic conductivity). This would be designed to soak away flood waters and provide a live storage area during a flood event. Prolonged standing water is not anticipated, however commentary from the Requiring Authority is

Submitter No.	Name	Submission Point/Issue Raised	Relief Sought	Technical Assessment
				sought is this regard at the hearing.

NoR 2: Takanini Level Crossings Project

Submitter No.	Name	Submission Point/Issue Raised	Relief Sought	Technical Assessment
4	Krittibas Dasgupta 3 Phar Lap Crescent	Concerned about unanticipated effects of construction and landscape modification on flood behaviour, and how residential properties will be affected by risk of floodwaters.	As detailed in submission.	I agree with the points raised in this submission and note the flood hazard outcomes are managed by engineering practice and the information and tools currently available to practitioners. Further I find the matters raised are addressed by the flood hazard condition. I have recommended amendments to the condition consistent with the matters that have been raised around certainty of outcome following the project construction. Referring to the Auckland Council's floodplain layer in Geomaps, I note the submitters property is not in the floodplain.

Submitter No.	Name	Submission Point/Issue Raised	Relief Sought	Technical Assessment
10,11	Alda Investments Limited D E Nakhle Investment Trust 164-166 Porchester Road	The project should not enable any increase in flood hazard on any sites.	The submitter seeks that the NoR is recommended to be withdrawn. In the alternative, the submitter seeks conditions to ensure each of the issues raised in the submission are addressed	The flood hazard conditions align with this submission point, particularly for properties already subject to flood risk. I have also recommended condition edits.
		There is no assurance that flooding or ponding of the carpark for the apartments proposed at 164-166 Porchester Road will be avoided. It is essential the health and safety of vulnerable residents is assured.	The submitter seeks that the NoR is recommended to be withdrawn. In the alternative, the submitter seeks conditions to ensure each of the issues raised in the submission are addressed	There is a flood hazard condition that manages risk associated with vehicle and pedestrian egress. I have recommended an edit to align with a recognised risk classification system.
13	Jayanta Bhaduri and Sudarshana Bhaduri 3 Arion Place	Risk of flooding.	Seeks the overbridge is not built.	The requiring authority has proposed mitigation for this area of the designation which in principle I agree with and will be subject to further detailed design. Referring to the Auckland Council's floodplain layer in Geomaps, I note the submitters property is not in the floodplain and lies adjacent to a dry detention pond which is an Auckland Council stormwater asset.

Submitter No.	Name	Submission Point/Issue Raised	Relief Sought	Technical Assessment
17	Takanini Village Limited 30 Walters Road	Adverse impacts on existing service connections to the site including water, fibre, gas, power and impacts on stormwater networks both piped and overland flows	Recommend that the requirement is modified or made subject to conditions to address all of the concerns raised in this submission.	The requiring authority has proposed mitigation for this area of the designation which in principle I agree with and will be subject to further detailed design through the performance outcomes on the flood hazard condition.
22	Z Energy Limited 254 Great South Road	Z does not consider that the NoR in its current format is likely to result in any permanent operational impacts on Z Papakura North. However, this is subject to detailed design and ensuring that appropriate conditions are in place.	That the site's existing landscaping, signage, hazardous substance storage / transfer / use layout, and infrastructure (including stormwater) will not be affected by the NoR	The proposed designation does not appear to encroach into the submitters site. I invite the Requiring Authority to comment on the relief sought in the submission at the hearing.

Technical Specialist Memo

To: Joy LaNauze, Consultant Reporting Planner

From: Martin Peake - Director, Progressive Transport Solutions Ltd

Date: 28 February 2024

Subject: **Takanini Level Crossings Notice of Requirement 1 & Notice of Requirement 2 Traffic And Transportation Assessment**

1. Introduction

1.1. My full name is Martin John Peake, I am a Principal Transportation Engineer and Director at Progressive Transport Solutions Limited. I hold the qualification of a Masters in Civil Engineering with Management from the University of Birmingham in the UK (1993). I am a Chartered Engineer (UK) and a member of the Institution of Civil Engineers, and a member of the Chartered Institution of Highways and Transportation.

1.2. I have 30 years' experience as a traffic engineer. I have worked for several major consultant engineering firms, and as a Team Leader of one of Auckland Transport's Traffic Operations Teams. I have owned and operated my own traffic engineering consultancy since 2014. In these roles, I have worked in a variety of areas of transportation including traffic engineering, traffic modelling and temporary traffic management. I have provided expert traffic and transportation advice on a range of resource consents, plan changes and Notice of Requirements across the Auckland region.

Involvement with Takanini Level Crossing Notice of Requirements

1.3. I was engaged by Auckland Council in March 2023 to review the Notice of Requirement (**NoR**) documentation to determine whether the information provided was sufficiently detailed and accurate to understand the traffic and transportation effects of the proposal. I attended project briefings by Supporting Growth Alliance (**SGA**) on the NoRs on 5 April 2023 and undertook a joint site visit with the SGA on 19 April 2023. I carried out further site visits on 26 and 27 April 2023. I have visited the site on subsequent occasions.

1.4. I sought further information on traffic and transportation effects as outlined in Section 92 Requests for Further Information dated 30 October 2023. These were responded to by the Applicant on 10 November 2023.

1.5. I have undertaken a review, on behalf of Auckland Council, of Notice of Requirements for the Takanini Level Crossing Project lodged by the Supporting Growth Alliance on behalf of Auckland Transport, in relation to traffic and transportation effects.

1.6. This report is my expert technical evidence on the Takanini Level Crossings Project and submissions relevant to traffic and transportation.

1.7. In writing this memo, I have reviewed the following documents in relation to traffic and transportation:

a) Takanini Level Crossings – Assessment of Transport Effects, Te Tupu Ngātahi Supporting Growth, October 2023

b) Takanini Level Crossings – Assessment of Environmental Effects, Te Tupu Ngātahi Supporting Growth, October 2023

c) Takanini Level Crossings – General Arrangement Plan – NoR 1, 26 May 2023

d) Takanini Level Crossings – General Arrangement Plan – NoR 2, 26 May 2023

e) Form 18 – Spartan Road, Manuia Road, Manuroa Road and Taka Street (NoR1), Notice of Requirement for Designation of Land Under s168(2) of the Resource Management Act 1991, Auckland Transport, 9 October 2023

f) Form 18 – Walters Road (NoR 2), Notice of Requirement for Designation of Land Under s168(2) of the Resource Management Act 1991, Auckland Transport, 9 October 2023

g) Minor Alteration to Notified Extent of Auckland Transport's Notice of Requirement – Takaanini Level Crossings NoR 1 – Tak Street Project Area (West), Te Tupu Ngātahi Supporting Growth, 9 November 2023

h) Response to Request for Further Information in accordance with Section 92 of the Resource Management Act 1991 for the Takaanani Level Crossings Project, Te Tupu Ngātahi Supporting Growth, 10 November 2023

Expert Witness Code of Conduct

1.8. I have read the Code of Conduct for Expert Witnesses, contained in the Environment Court Consolidated Practice Note (2023) and I agree to comply with it. I can confirm that the issues addressed in this Memo are within my area of expertise and that in preparing this Memo I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

1.9. I have qualified my evidence where I consider that any part of it may be incomplete or inaccurate, and identified any information or knowledge gaps, or uncertainties in any scientific information or mathematical models and analyses that I am aware of, and their potential implications. I have stated in my evidence where my opinion is not firm or concluded because of insufficient research or data or for any other reason and have provided an assessment of my level of confidence, and the likelihood of any outcomes specified, in my conclusion.

2. Scope and Structure

2.1. This memo relates to the Takanini Level Crossings (**TLC**) Notice of Requirements (**NoR**) by Auckland Transport, which consists of:

a) Takanini Level Crossing NoR 1 (Spartan Road, Manuia Road, Manuroa Road, Taka Street); and

b) Takanini Level Crossing NoR 2 (Walters Road).

2.2. In preparing my memo, the following information requested in s92 Requests for Further information was either incomplete or did not provide sufficient information for me to provide a fully informed opinion of the traffic and transportation effects of the proposals:

a) Further analysis and detail of traffic delays and queues associated with the Takanini Interchange and effects on the operation of Great South Road, including the Great South Road / Manuia Road intersection.

2.3. My memo deals with the following matters:

a) Section 3 – Summary of the Key Issues on traffic and transportation matters;

b) Section 4 – Analysis of Assessment of Effects by Supporting Growth Alliance on traffic and transportation issues;

c) Section 5 – Response to submissions;

d) Section 6 – Assessment of SGA Proposed Conditions

e) Section 7 – Conclusion and recommendations

3. Summary of Key Issues

3.1. The key traffic and transport issues in relation to the Notice of Requirements are set out in Table 1.

Table 1 - Summary of Key Traffic and Transportation Issues

Notice of Requirement	Key Traffic and Transportation Issues	Paragraph Ref.
All NoRs	Construction Effects: a) Extent and significance of traffic effects over the whole period of the construction of all TLC projects	4.3.17 to 4.3.19
	b) Effects on diverted traffic to Subway Road	4.3.23
	c) Effects of on pedestrians and cyclists, particularly with potential closure of crossings of the railway line at Takanini Station and Tironui Station	4.3.24
	Operational Effects: Network Effects d) Effects of staged implementation of individual level crossings.	4.1.15 and 4.1.16
	e) Effects on access to the strategic road network are underrepresented.	4.4.17 to 4.4.29
	f) Resilience of network to accommodate incidents on Manuia Road bridge.	4.4.31
	g) Effects on on-street parking and off-street parking not sufficiently addressed in conditions.	4.4.55 to 4.4.56
NoR 1	Construction Effects a) Effects on Spartan Road businesses west of railway line and routeing of heavy vehicles	4.3.21, 4.4.33 and 4.5.6 to 4.5.7

	b) Timing of construction of TLC projects	4.3.22
	Operational Effects	
	c) Effects on Spartan Road businesses west of railway line and routeing of heavy vehicles	4.5.6 to 4.5.7
	d) Effect on the safe and efficient operation of the Spartan Road / Oakleigh Avenue cross-roads intersection	4.5.9
	e) Efficient operation of Manuia Road / Great South Road intersection and effects on Manuia Road bridge.	4.4.25 to 4.4.29
	f) Safe access to Manuia Road from Manuia Road bridge	4.5.14 to 4.5.16
	g) Forecast use of Spartan Road and Manuroa Road by pedestrians and cyclists with active modes bridge is forecast to reduce with the project.	4.4.46 to 4.4.49, and 4.5.10, 4.5.23
	h) Effect on the safe and efficient operation of the Manuroa Road / Oakleigh Avenue cross-roads intersection	4.5.24
	i) Effect of designation on 18 Manuroa Road	4.5.25 and 4.5.26
NoR 2	Construction	
	a) Effects on Takanini Town Centre if Walters Road is closed for construction.	4.3.25 to 4.3.26
	Operation	
	b) Effect on access to Takanini Town Centre and requirement to provide access.	4.4.62 and 4.5.40
	c) Suitability of accessways on the western side of the railway line at Walters Road to accommodate large turning vehicles.	4.5.39

4. Analysis of Supporting Growth Alliance Assessment of Transportation Effects

This section provides an analysis of the SGA Assessment of Transport Effects (**ATE**). My analysis is provided in the order that the effects are assessed in the ATE.

4.1. *SGA Overall Assessment Methodology*

4.1.1 ATE Section 3 sets out the general approach to the assessment methodology which includes an assessment of the construction and operational effects. As the NoRs are required for route protection and not imminent construction, the assessment has been undertaken for a likely future transport environment.

4.1.2 ATE Section 3.3.1 sets out the timeframes for the assessment. For assessing the construction effects, the ATE assumes that construction is expected to occur by 2038 and this has been used for assessment purposes so that this takes into account changes in both the land transport environment and land uses in the area and across the network. For operational effects, a future year of 2048 was adopted to assess the extent of

impacts which would occur beyond the implementation of the Takanini Level Crossings (**TLC**).

4.1.3 The ATE has concentrated on assessing the overall effects of the implementation of both NoRs (with works complete at all five level crossings) rather than the effects of individual NoRs.

4.1.4 Four scenarios have been assessed in the ATE (Section 3.3.3), two for construction and two for operation. For construction, a do-nothing and with project (with a range of construction scenarios) was assessed for 2038. For the operation, a do-nothing and a with project (all five level crossing projects complete) for 2048 was assessed.

4.1.5 The ATE notes the limitations of the assessment given that the NoRs are based on concept level designs and that before construction occurs, there are various stages of design development, including transport modelling, that will be required and business cases will need to be approved to secure funding.

4.1.6 In assessing the operational effects, ATE Section 3.4.2 sets out the suite of transport models that have been utilised to undertake a quantitative assessment of the transport system. As set out in ATE Section 3.2 and 3.4.2 the transport models take into account the planned network for both roading and rail improvements. It is noted that not all of these projects are funded.

4.1.7 The ATE notes uncertainty around the land use forecasts with particular reference to the National Policy Statement on Urban Design 2020 (**NPS-UD**) and the Medium Density Residential Standard (**MDRS**). These policies may affect the development of land, particularly residential land both in the immediate area and region wide. Therefore, this may affect future transport demands depending on how these effect future residential growth. The ATE also notes that (at the time of writing of the ATE), that the Auckland Council Future Development Strategy (**FDS**) was still in draft form.

4.1.8 As well as understanding changes in traffic flows across the network, specific key intersection modelling utilising the modelling package SIDRA has been undertaken.

4.1.9 ATE Section 3.4.3, Table 9 provides a summary of the key network components to be assessed and the relevant assessment methodology. The key components considered were safety, public transport, walking and cycling, general traffic, property access, parking, and freight.

4.1.10 For construction effects, the methodology is set out in ATE Section 3.5. An indicative construction methodology has been utilised (as detailed in the Assessment of Environmental Effects (**AEE**), Section 9.2) to determine how the works at each level crossing would be undertaken and how this has informed the land required for construction. It is anticipated that the works would be undertaken online. The ATE considers that future assessment will be required at the time of construction to assess impacts on network capacity with road or lane closures, and effects on property access.

4.1.11 In managing construction traffic effects, the methodology is to rely on the Construction Traffic Management Plan (**CTMP**) and any Site Specific Traffic Management Plans required.

4.1.12 To determine the construction traffic effects, the ATE methodology is to assess a range of scenarios where the level crossings are closed to allow for construction of bridges and to determine the effects on traffic flows, travel times for diverted traffic, pedestrians and cyclists, effect on freight, property access and any constraint on timing of works at each level crossing.

4.1.13 The ATE states that the focus of the construction traffic effects assessment is to determine characteristics or potential effects where specific conditions may be required where the effects may not be captured in the management plans.

Analysis

4.1.14 I have reviewed the general approach to the methodology and am satisfied that the approach is appropriate for assessing the transport effects of the NoRs. I concur that there will be some uncertainty in terms of the future traffic environment as this will be partly dependent on future residential and industrial development in the area and within the wider region and the implementation of transport projects. The FDS has now been approved and this may have an effect on the rate or scale of development within the Takanini area and thus the potential timing of elements of or the whole project.

4.1.15 For the operational effects, this has been assessed with the TLC projects all complete. As the projects will be staged in their implementation, there will be periods where there may be effects that would need to be managed until they are all complete. Given the number of permutations involved, and the uncertainties in the relative timing of the TLC projects, I consider there would be limited benefit of undertaking such an assessment at this time, although the assessment of the construction effects does partly take that into consideration.

4.1.16 Due to the practicality of determining effects of the staged construction of the NoRs at this stage (with NoR 1 in particular), I consider that NoR conditions are required to ensure that the interim effects prior to the completion of both NoR 1 and NoR 2 are appropriately assessed and mitigated.

4.2. *Existing and Likely Future Transport Environment*

4.2.1. ATE Section 4 sets out the existing transport environment as it is today and the future transport environment (without the TLC projects). The ATE sets out the conditions for general traffic, level crossing safety, walking, and cycling, public transport (rail services and stations, buses and AT Local), freight, and local property access.

4.2.2. The operation of the level crossings is outlined including crashes and safety incidents at each crossing and frequency of operational faults. The ATE (Section 4.1.4.1) outlines that when faults occur, this effects the efficiency of trains as speeds have to be reduced and train services can be cancelled.

4.2.3. For the future transport environment the ATE sets out changes to the rail network that will increase the frequency of services along the rail network as well as patronage (such as Central Rail Loop, Papakura to Pukekohe electrification, new rail stations in Drury, station upgrades). These improvements are expected to occur regardless of the TLC projects. The effect of these improvements would be to increase the frequency of the

barrier down times which will impact on the operation of the roading network at each of the level crossings. In peak periods the barriers are anticipated to be down for 61 to 64% each hour during peak periods and 30% of each hour in the interpeak. This is expected to impact on traffic congestion with increased queueing on the approaches to the level crossings and onto the surrounding network and increase safety risks due to road users (including pedestrians and cyclists) potentially taking risks.

4.2.4. With regards to freight, ATE Section 4.2.7 outlines the forecast employment growth for the Takanini industrial area. The number of jobs will affect the traffic generation and the proportion of heavy vehicles associated with the industrial activity. It notes that uptake has been slow and that the forecasts in the Auckland Forecast Centre (**AFC**) model (version i11.6) is based on a forecast of 9,620 jobs in 2048+. The ATE has compared this forecast against other industrial areas and considers that this is unrealistic level of employment based on the number of jobs per hectare of land. Therefore, it has considered two scenarios with a lower number of jobs including an aspirational (75%) and 'likely' scenario (50%). For the 2048+ future year, to assess the operational effects of the project, the aspirational scenario has been utilised.

4.2.5. The ATE Section 4.2.9 summarises the future transport environment as follows:

- *High risk level crossings;*
- *Congested transport corridors;*
- *Poor walking and cycling network and east-west connectivity; and*
- *Impact of SH1 and Great South Road will worsen overtime*.

Analysis

4.2.6. I generally agree with the description of the existing transport environment and the assumptions around the future transport environment appear reasonable.

4.2.7. The level crossings are described as high risk in the future year summary (refer paragraph 4.2.5). This is at odds with the LCSS rating presented in ATE Table 12 which has the rating ranging from Low to Medium. However, the ATE highlights the residual safety risks as the safety measures installed do not prevent motorists or vulnerable road users from crossing the tracks. I note that should a conflict occur with a train the likelihood of a death or serious injury is high. These risks are recognised by KiwiRail and they adopt an elimination first approach with grade separation being the first treatment choice before considering other measures. Where grade separation cannot be achieved, any modification to a level crossing should achieve a medium-low LSCC rating. Whilst the level crossing LSCC rating may not be high, I would concur that in the future transport environment with increased operation of the level crossings and traffic, that the level crossings would pose a high risk in terms of the likely severity of a crash with a train, particularly for vulnerable road users.

4.3. *Assessment of Construction Effects (Overall Network)*

4.3.1. ATE Section 5 sets out the assessment of the construction effects.

4.3.2. The ATE notes that there is a business case reviewing the prioritisation of closure of level crossings across the Auckland rail network and therefore the potential timing or

prioritisation of the closure of the four TLCs was unknown at the time the ATE was prepared. Therefore, the ATE has assessed a number of scenarios to consider the sequence of constructing the projects and the effects on the transport network.

4.3.3. The TLCs were broken down into three geographical areas with various scenarios considered for each area. Two of the areas were within NoR 1 and the third was for NoR 2. The testing considered the transport effects for NoR 1 with various scenarios with and without Manuia Road overbridge constructed. For NoR 2, only a single scenario was considered which was for the construction of the Walters Road bridge with Spartan Road, Manuroa Road and Taka Street open and Manuia Road bridge not yet constructed.

4.3.4. The effects of construction on transport modes were considered (general traffic, freight, pedestrians and cyclists and public transport).

4.3.5. For NoR 1, Area 1 considered two scenarios with Manuroa Road bridge under construction; Scenario 1a included Spartan Road closed and Manuroa Road open, and Scenario 1b included Spartan Road open and Manuroa Road closed. In both scenarios both Taka Street and Walters Road were open.

4.3.6. I briefly summarise the assessment provided in the ATE in the Table 2.

Table 2 - Summary of Assessment of Construction Effects - Manuia Road under construction

Transport mode	**Scenario 1a**	**Scenario 1b**
General Traffic	Manuroa Road operates at or over capacity in both directions in both peaks Delays of 1.5 to 2 mins occur on Manuroa Road Traffic primarily diverted to Porchester Road, Alfriston Road and Taka Street	Taka Street impacted, particularly in PM peak, approaching capacity. Impact on Walters Road and Subway Road in PM peak. Additional delay of 1.5 to 3+ mins on Spartan Road.
Freight	Freight diverted onto residential streets including Manuroa Road which is not a suitable alternative freight route.	Freight forced to divert to alternative routes such as Alfriston Road / Porchester Road and Taka Street leading to longer journey distances and times.
Pedestrians and cyclists	Significant diversion for peds and cyclists to Manuroa Road	Pedestrian/cycle routes not significantly affected, but could be affected if access across railway line at Takanini Station is closed.

Public Transport	Diverted traffic onto wider network will impact on public transport services.	Buses not significantly affected by additional traffic on alternative routes.

4.3.7. The ATE considers that whilst there are effects on the transport network, that these are not significant as they would only be for short durations. Notwithstanding, in summary, the ATE recommends that the Manuia Road bridge should be constructed and operational prior to the closure of the Spartan Road and Manuroa Road level crossings.

4.3.8. For Area 2, the ATE considered two scenarios during the construction of Taka Street; Scenario 2a included Spartan Road and Manuroa Road closed with Manuia Road bridge constructed, and Scenario 2b included Spartan Road and Manuroa Road open with Manuia Road yet to be constructed. In both scenarios Walters Road was open.

4.3.9. I briefly summarise the assessment provided in the ATE in the Table 3.

Table 3 - Summary of Assessment of Construction Effects – Taka Street under construction

Transport mode	**Scenario 2a**	**Scenario 2b**
General Traffic	Traffic primarily diverts to Manuia Road bridge which would be heavily congested with 2 to 3 minute delays. Significant gap in east-west road network across the railway line with 2km between Manuia Road and Walters Road crossings. Walters Road has increased congestion, particularly in the PM peak. Significant increase in travel times for community access to key local destinations.	Manuroa Road main diversion route which results in it operating at or close to capacity. Some diversion to Walters Road and Subway Road resulting in increased congestion on these routes. Increased delays of up to 1 minute on Manuroa and Spartan Roads. Significant increase in travel times for community access to key local destinations.
Freight	Freight is able to use Manuia Road bridge and will mix with increased light traffic which has safety concerns due to higher consequence of crash between heavy and light vehicles.	No significant effect on freight as this can continue to use Spartan and Manuroa Road.
Pedestrians and cyclists	Potential for significant diversion routes, particularly if the at grade crossing across	Potential for significant diversion routes, particularly if the at grade crossing across

	the railway line at Takanini Station is closed.	the railway line at Takanini Station is closed.
Public Transport	No significant diverted traffic onto bus routes.	No significant diverted traffic onto bus routes.

4.3.10. The ATE recommends that suitable alternatives to facilitate traffic, pedestrian and cyclist movements should be provided.

4.3.11. For NoR 2, only the construction of Walters Road was considered with all existing level crossings to the north open and Manuia Road yet to be constructed.

4.3.12. I briefly summarise the assessment provided in the ATE in the Table 4.

Table 4 - Summary of Assessment of Construction Effects – Walters Road under construction

Transport mode	**Scenario 3**
General Traffic	Traffic diverted onto Taka Street and Subway Road with potential for a lot of pressure through Subway Road with Subway operating at or over capacity. Manuroa Road affected in PM peak with route approaching capacity. Significant increase in travel times for community access to key local destinations.
Freight	No significant effect on freight as this can continue to use Spartan and Manuroa Road.
Pedestrians and cyclists	Potential for significant diversion routes, particularly if the at-grade crossing across the railway line at Tironui Station is closed.
Public Transport	No significant diverted traffic onto bus routes.

4.3.13. The ATE recommends offline construction to retain movements on this corridor.

4.3.14. ATE Section 5.5 outlines the potential effects with regards to construction traffic and managing these effects. At this stage, there are uncertainties around the volume of construction traffic, construction traffic routes and methodologies. The ATE considers that this is best managed through a Construction Traffic Management Plan (**CTMP**) which would be developed when more information is known.

4.3.15. The ATE acknowledges the effects on property access and the need to retain this during construction as well as reinstating accesses with the completed project. It suggests that accessways proposed for the final project layouts could be constructed initially to maintain access during the construction period.

4.3.16. Some short term temporary closures of roads may be required during the construction phase, such as overnight or at weekends to allow for critical construction activities. It is proposed that these are managed through the CTMP and any Site Specific Temporary Traffic Management Plans (**SSTTMP**).

Analysis

4.3.17. The ATE has considered a number of scenarios for the construction of the various TLC projects to determine the effects with a combination of the TLCs open or closed. I consider the assessment approach to be appropriate given that there is currently no defined programme or priority for the construction of the TLC projects.

4.3.18. The ATE considers that a number of the identified effects on the transport network are not significant as these would be temporary and for a short duration, perhaps 2.5 to 3 years. Whilst I concur that the transport effects associated with the construction of a particular TLC project in isolation would be temporary, there are five TLC projects to construct and the projects are unlikely to be constructed in parallel; therefore, construction could occur over a 10-year or so period. As a result this would result in some loss of east-west capacity and diversion of traffic (and freight) onto other routes or require the re-routeing of pedestrians/cyclists. Therefore, there is likely to be on-going construction related effects for an extended period of time. I consider the effects on diversion of traffic and pedestrians/cyclists and disruption to people in the local area may be significant when considered over the duration of the whole construction period. The effects could include congestion and delays in the vicinity of the TLC projects, but also further to the south at Subway Road in Papakura.

4.3.19. I therefore consider that it is important that the NoR conditions ensure that the TLC projects are appropriately staged and coordinated to mitigate the effects of the construction of the various TLC projects and that the conditions manage the effects of the different road users / transport modes.

4.3.20. For the NoR 1 assessment, I consider that the effects on Spartan Road are not well articulated in the ATE.

4.3.21. Spartan Road in Tables 20 and 23 are reported as having a V/C ratio of 100%. It is evident from the reporting that traffic will be diverted onto this route as there are some significant additional delays reported for Spartan Road which will impact on freight movements. Furthermore, for Spartan Road to be closed prior to Manuia Road bridge being constructed, there is no discussion in the ATE on the effects of traffic from the businesses west of the railway line (such as Hall's Group Limited and VTNZ). The effect of closing Spartan Road on these businesses is discussed for the final project but not in relation to construction. These issues would at least be partially addressed by the provision of the Manuia Road bridge as this would provide additional east-west capacity and measures to assist vehicles exiting the business west of the railway line to travel north on Great South Road.

4.3.22. For NoR 1, I support the recommendation provided in the ATE that the Manuia Road bridge should be constructed prior to either the closure of the Spartan Road or Manuroa Road bridges. I also consider, that the Manuia Road bridge should also be provided

prior to the construction of Taka Street. These recommendations should be included in the NoR conditions.

4.3.23. I consider that the CTMP condition should include reference to the Subway Road east-west connection as this is adversely affected by both NoR 1 and NoR 2, particularly for Taka Street and Walters Road where there appears to be traffic diverting onto this route and adversely affecting the operation of Subway Road.

4.3.24. I understand from the ATE that there is a separate study that is considering the closure of at-grade pedestrian crossings across the railway line at Takanini Station and Tironui Station. Should these crossings be closed, this would impact on the alternative arrangements for providing east-west connections across the railway line. A lack of east-west connectivity for pedestrians (and cyclists) would likely result in heightened safety risks as pedestrians may be tempted to take risks to cross the railway line in inappropriate locations rather than take long diversion routes. Therefore, I consider it will be important that there should be robust NoR conditions in NoR 1 and NoR 2 that require the provision of alternative facilities for pedestrians and cyclists during construction.

4.3.25. The ATE has generally discussed the issue of property access at an overall level in terms of how access to properties will be managed and maintained through construction. Given that the construction methodology and associated effects on specific property accesses is currently unknown, I generally concur that the CTMP would be an appropriate tool to manage those effects, together with other complementary NoR conditions around Stakeholder engagement. Notwithstanding, submitters have raised concerns on the effects on property access during construction and specific NoR conditions may be required in that regard. I discuss this specifically in relation to individual submissions in Section 5.

4.3.26. In my view, a specific exception is how access to the Takanini Town Centre would be managed. The construction of Walters Road will result in a significant restriction on access to this property from the western side of the railway line if Walters Road is closed for construction. Traffic travelling to / from the west would have significant diversions and would need to travel through residential areas. I do not consider that the ATE has sufficiently assessed how access to the Takanini Town Centre would be provided or managed during construction if Walters Road is closed. I note the ATE does recommend that Walters Road be constructed off-line and there appears to be sufficient space within the proposed designation for this to occur. Therefore, I consider specific NoR conditions are required in this regard. Notwithstanding, I consider that the Applicant should in evidence or at the hearing provide an assessment of the effects on the access to the Takanini Town Centre during construction and measures to address those effects.

4.3.27. The ATE in Section 5.6 outlines the general requirements the CTMP should include and some but not all of these have been incorporated into the NoR conditions. I would generally support the additional recommendations outlined in the ATE and consider that the CTMP condition should be updated accordingly.

4.3.28. In summary, I generally agree with the approach adopted to assess the traffic effects due to construction. However, I consider that the NoR conditions do not sufficiently

ensure those effects are appropriately managed, particular in relation to the staging of the construction of the TLC projects (both NoR 1 and NoR 2) and that key recommendations of the ATE should be adopted within the NoR conditions. I recommend:

a) NoR conditions ensure that the TLC projects are appropriately staged and coordinated to mitigate the effects of the construction of the various TLC projects;

b) CTMP condition should include reference to the Subway Road east-west connection as this is adversely affected by both NoR 1 and NoR 2, particularly for construction of Taka Street and Walters Road;

c) CTMP conditions should require the provision of alternative facilities for pedestrians and cyclists during construction;

d) CTMP condition should address construction related property effects where these are significant; and

e) The Applicant should, in evidence or at the hearing, provide an assessment of the effects on the access to the Takanini Town Centre during construction and measures to address those effects.

4.3.29. I provide proposed recommendations to the NoR conditions in Section 6.

4.4. *Assessment of Operational Effects – Network Wide*

4.4.1. ATE Section 6 provides an assessment of the operational effects of the TLC projects from a network wide perspective. Specific corridor effects of each TLC project are detailed in ATE Section 7. In this section, I discuss the network wide operational effects.

4.4.2. The ATE has assessed the overall operational effects of the project assuming that all of the TLC projects (both NoRs) are constructed. The assessment is based on a future year of 2048+ which includes anticipated roading and public transport improvements.

4.4.3. The AEE summarises the project objectives in Section 3.2 and the ATE considers these objectives in evaluating the network wide operational effects. The objectives are:

a) Safety – Provide improvements at level crossings that contribute to a transport network that is free from deaths and serious injuries.

b) Travel Choice – Support mode share by improving active mode facilities and rail capacity.

c) Resilience – Support network resilience for Takanini and improved reliability of the southern rail line.

d) Access – Improve east-west connections to enable improved access to economic and social opportunities.

General Traffic

4.4.4. ATE Section 6.4 details the performance of the network for general traffic. Manuia Road, Taka Street and Walters Road are all anticipated to be secondary arterials in the future network. These are forecast to carry 23,600vpd, 16,900vpd and 12,600vpd, respectively. Manuia Road is forecast to carry the greatest volume of traffic as this provides access to the Takanini industrial area and the associated employment areas. The volume of traffic will be dependent on the growth within the industrial area.

4.4.5. Table 30 summarises the anticipated link capacities for each of the east-west links, and this indicates an increase in capacity in the peak periods. This increase is predominantly due to the grade-separation of the level crossings. Table 31 summarises the daily traffic volumes with and without the project. I note that the volumes in this table are higher than the daily link capacities included in Table 30. A s92 Request for Further Information was sought on this matter, however, the response did not sufficiently explain the discrepancy; it is not clear how the daily link capacity has been calculated in Table 30.

4.4.6. ATE Section 6.4.2 demonstrates that there would be reduced average travel times (by car) from east of the railway line to key employment areas. The differences in travel times are modest with savings of 1.2 to 1.3 minutes to Takanini West and Manukau, and only 0.3 minutes (around 20 seconds) to Wiri.

4.4.7. The ATE discusses the closure of Takanini Road at Taka Street. It highlights that around half of the traffic using this street is simply travelling through this area rather than having an origin or destination on Takanini Road. The closure will reduce the total traffic volume by around 1,500vpd from a forecast 3,300vpd. All vehicles would need to enter the area via Beach Road or Glenora Road from Great South Road. The increase in travel distance is 1.2 to 1.6km and is estimated to be an additional 3-4 minutes in travel time. For pedestrians and cyclists, a connection to Taka Street will be provided and there is the opportunity to provide a connection to the Taka Street bridge from Takanini Road. As part of mitigation, the ATE recommends that wayfinding signage should be provided to the community hall on Takanini Road.

4.4.8. The effects on the strategic network are discussed in ATE Section 6.4.3. This states that there would be increased delays at the Takanini interchange, particularly in the morning peak period on the northbound on-ramp (over 2.5 minutes of additional delay). It is stated that there is a risk that queues could block back onto Great South Road. Delays along Great South Road are reported and show that these gradually increase at each Great South Road intersection with proximity to the interchange. The limitations in the modelling are highlighted in that the model does not report on individual lane delays and the effects of traffic travelling to the motorway would be greater than reported.

4.4.9. The analysis shows that on the wider network there is increased delay (1.9 minutes) at the Alfriston Road / Claude Road intersection which provides a connection to SH1.

4.4.10. Overall, the ATE shows that there are reductions in delays in the local network across each TLC corridor with the project. This shows, from a local perspective that the project would improve accessibility with the removal of the level crossings.

4.4.11. The performance of key intersections is summarised in ATE Section 6.4.4. The intersection modelling (using SIDRA) uses traffic volumes from the SATURN model. The summary in Table 33 shows that overall that the intersections are forecast to operate at a Level of Service C or better. This is generally accepted as a good level of performance.

4.4.12. Examination of the SIDRA intersection model output in ATE Appendix B shows for the Manuia Road / Great South Road intersection individual movements and/or approaches operate at a lower (worse) level of service (either D or E). The ATE highlights particular operational issues including the risk of southbound queues on Great South Road for the left turn to Manuia Road blocking back to the Takanini Interchange, heavy queuing in the northbound direction on Great South Road and queuing on Manuia Road. Mitigation is proposed by way of increased stacking length for the left turn movement to Manuia Road, extending the Manuia Road right turn bay the full length of Manuia Road and adjusting signal timings.

4.4.13. The project is forecast to reduce the Vehicle Kilometres Travelled (VKT) across the whole network by 49,300 kilometres per day with an associated reduction in vehicle crashes, congestion, and vehicle emissions.

Analysis

4.4.14. I concur that the project will improve the link capacity of the east-west connections over the railway line with the removal of the level crossings. Whilst the project will reduce the number of road crossings over the railway line from four to three, the grade separation will remove delays associated with the level crossings with the frequent operation of the barriers and thereby improving the total east-west link capacity across the railway line. Notwithstanding, the intersections with Great South Road (and the roundabout at Manuia Road / Oakleigh Avenue) will then likely become the constraints on capacity.

4.4.15. As outlined in paragraph 4.4.6, travel times from the eastern side of the railway line to three key employment areas are shown to improve with the project. These improvements are relatively modest (1.2 to 1.3 minutes) to destinations within the local area. For travel to Wiri, which is a much longer distance, the travel time saving is only 0.3 minutes or 18 seconds. Over the total length of a trip this is unlikely to be discernible.

4.4.16. The ATE states that the travel time savings identified are a key factor for mode shift in the area[1]. I do not agree with this statement as I do not consider that improved journey times by private vehicle will encourage a shift to other modes.

4.4.17. When considering trips to the wider road network, including to the strategic network (SH1 Southern Motorway), the analysis shows that there are delays for these trips. Highlighted in the ATE are additional delays for traffic on the northbound on-ramp to the motorway and the potential risk that queues could extend back onto Great South Road.

4.4.18. For northbound motorists on Great South Road accessing Takanini Interchange, the kerbside lane is dedicated for the movements to both the northbound and southbound ramps. Queues are regularly observed in the kerbside lane along Great South Road to access the motorway. I am not aware of any plans to change the layout or operation of

[1] ATE, SGA, October 2023, Section 6.4.2, Page 99

the interchange and therefore I do not foresee this operation changing in the future, in fact the level of congestion is likely to increase over time. Additional queues and/or delays on the on-ramp would have a knock on effect on the operation of Great South Road.

4.4.19. The ATE also acknowledges limitations in the traffic modelling where delays are averaged on each intersection approach and not provided by lane. This is particularly relevant in this case, as adjacent to the northbound Great South Road kerbside lane (which is dedicated for movements to the motorway) there are two through lanes which have comparatively little queuing or delay. Therefore, the reported delay in the traffic modelling averaged across the whole approach does not specifically relate to delay for motorway bound traffic. In this instance, I consider that the modelling is likely to be underreporting the delays associated with movements to the motorway and thus the overall effect on access to the strategic motorway network.

4.4.20. Simply considering the ATE reported increased delay on the northbound on ramp of 163 seconds and the additional delays reported of 51 seconds for Great South Road (which are likely to be underreported for motorway traffic), this would result in an increase in delay of 214 seconds which equates to over 3.5 minutes. This is significantly more than the travel time savings reported for the local trips. Therefore, whilst I acknowledge that local accessibility will be improved with the grade separation of the TLCs, I consider that this would be more than offset by delays to traffic accessing the strategic road network. Traffic affected by these additional delays will include motorists not using the TLCs.

4.4.21. The ATE noted increased delays with the project on Alfriston Road at Claude Road which was considered to be due to traffic associated with accessing the motorway at Hill Road. I consider that this increase in delay at Alfriston Road is likely to be due to re-routeing of motorists to avoid the Takanini Interchange.

4.4.22. I raised a s92 Request for Further Information[2] on this matter to understand in more detail the effects on the interchange. The response provided did not provide any further assessment or detail.

4.4.23. No specific mitigation is proposed for the effect on the operation of the interchange or knock-on consequence to Great South Road. The ATE implies that the increased traffic onto the motorway would be managed through the ramp signals and increased flow would need to be '*pro-actively considered at the time of implementation*'[3].

4.4.24. I consider that the proposed NoR conditions do not ensure that the wider network effects of the projects are appropriately considered or mitigated and, in my view, conditions should be included to ensure that the projects appropriately address the effects on the interchange.

4.4.25. I have highlighted above limitations on the network modelling above with regards to congestion on Great South Road. The intersection modelling undertaken of the proposed Manuia Road / Great South Road traffic signals has been undertaken in

[2] Section 92 Request T5, dated 30 October and response dated 11 November 2023
[3] ATE, SGA, October 2023, Section 6.4.3, Page 103

isolation. I am therefore concerned that the modelling of this intersection does not take into account the interaction with the Takanini Interchange and the differential queuing that currently occurs in the kerbside lane for traffic travelling to the motorway, nor the effects of downstream queuing associated with motorway bound traffic.

4.4.26. These queues are likely to affect the operation of the intersection, particularly for traffic turning right from the new Manuia Road bridge which is destined for either the southbound or northbound motorway ramps. There is approximately 130m between the Manuia Road intersection and the diverge for the southbound lane. If traffic is queued in this lane, there is little distance to enable vehicles to merge into the lane; this will be particularly problematic for large heavy vehicles which are anticipated to be a significant proportion of the vehicles using Manuia Road.

4.4.27. This issue is likely to result in constraining the capacity of Manuia Road, particularly at peak travel times. This will affect the movement of freight from the industrial area and local accessibility. It will affect the reliability for east-west trips across the railway line.

4.4.28. In a s92 Request for Further Information[4] I raised concerns about the volume of traffic allocated to the right turn movement from Great South Road to Manuia Road in the PM peak which was very low (2 vehicles per hour). As this intersection is seen as the primary route to access the Takanini Industrial area, I considered that this volume to be unreasonably low. A sensitivity test was reported in the s92 response with 50 vehicles undertaking the manoeuvre. It reported that the overall intersection continued to operate satisfactorily but did not report the effect on the particular movement. The SIDRA modelling results should be provided either in evidence or at the hearing.

4.4.29. I recommend either in evidence or at the hearing that further analysis be provided of the operation of the proposed Manuia Road / Great South Road traffic signals in combination with the operation of the Takanini Interchange to demonstrate that the network would operate efficiently and safely, and the delays associated with the interchange operation.

4.4.30. I acknowledge the proposed mitigation measures for the Manuia Road / Great South Road intersection in relation to the southbound Great South Road left turn lane and the extension of the right turn lane on Manuia Road for the full length of the Manuia Road bridge to Oakleigh Avenue. I consider that these are appropriate measures but that they may not be totally sufficient to address the effects.

4.4.31. The proposals replace two crossings of the railway line (Spartan Road and Manuroa Road) with a single crossing at Manuia Road. The Manuia Road bridge is anticipated to be used by traffic from the two closed routes and as highlighted above is expected to be "busy"[5]. Should an incident occur on the bridge, such as a crash or a breakdown, there is no convenient alternative route for motorists to divert. The closest crossing of the railway line is Taka Street and this would require traffic to route through residential streets and past Takanini School. This traffic would include a significant volume of freight from the Takanini Industrial area. I am therefore concerned that the project objective of improving network resilience with the ability of the network to accommodate east-west

[4] Section 92 Request T10, dated 30 October and response dated 11 November 2023
[5] Section 92 Request T1, dated 30 October and response dated 11 November 2023

movements across the railway line, should an incident occur on Manuia Road bridge, would not be achieved.

4.4.32. Overall, I consider that the TLC projects, once all completed, will achieve the objective of increasing the east-west capacity over the railway line at the local level. However, subject to the further information outlined above, I am concerned that the project will have adverse effects on providing access to the adjacent strategic road network and affect traffic not using the east-west connections. Furthermore, I am concerned about network resilience with the closure of both Spartan Road and Manuroa Road being replaced by the single crossing at Manuia Road.

Freight

4.4.33. For freight Manuia Road and roads connecting to the Takanini Industrial area are anticipated to be designated Level 2 freight roads. Manuroa Road, Oakleigh Avenue and Manuia Road are proposed to be over dimension routes and will need to be designed to cater for over dimension vehicles.

Analysis

4.4.34. I concur with the general assessment of the effects on freight at a network wide level. However, I do have concerns with the effect on freight with the Spartan Road TLC project. I discuss this in paragraphs 4.5.6 and 4.5.7 in relation to the corridor specific operational effects of the project. I am also concerned about network resilience for the movement of freight (and general traffic) as discussed in paragraph 4.4.31.

4.4.35. Crashes

4.4.36. ATE Section 6.6 states that the project is anticipated to improve safety at the level crossings with the grade separation. Without the project, increased frequency of operation of the level crossings will increase the risk of crashes. The grade separation will eliminate conflicts between trains and other road users. The project is estimated to save 0.14 level crossing crashes per year. The ATE notes this is a small saving but that severity of crashes is likely to be high.

4.4.37. The ATE estimates that with the reduction in the VKT that there would be an estimated saving of 1.1 deaths and serious injuries (**DSI**) per year and a total of 78 crashes per year across the network. Over a 40-year period this equates to an estimate 36 DSIs saved.

Analysis

4.4.38. I concur with the assessment that the project will improve safety and reduce crashes associated with the grade separation of the level crossings as this would remove conflicts between trains and other road users.

4.4.39. I acknowledge the analysis and estimated reduction in crashes across the network due to the reduction in VKT. The analysis presented in ATE Table 35 has been undertaken across the whole of the Auckland network with the majority of savings occurring either on arterial roads with speeds less than 60km/h and rural roads with speeds greater than 80 km/h. Details of the trips of where the VKT reduction has been achieved have not

been provided. However, the project is likely only to have localised effects on routeing of traffic and thus I consider that the VKT reduction is likely to be due to traffic using the new TLC connections and not diverting onto other arterial roads such as Alfriston Road and Porchester Road. As these roads are not rural roads with speed limits greater than 80km/h, I am of the opinion that the crash savings derived from the table in the ATE are likely to be overstated.

4.4.40. Whilst I agree that there will be crash savings with the project, I consider that the benefits presented in the ATE are overstated.

Walking and Cycling

4.4.41. ATE Section 6.7 outlines the details of the operational effects for walking and cycling. The project is stated to align with the Transport Emissions Reduction Plan (**TERP**) with the provision of facilities for cyclists and pedestrians. The ATE states that the goal is to increase active mode east-west permeability, enable more modal options and provide safer walking and cycling connectivity.

4.4.42. The project anticipates that there would be increased walking and cycling due to intensification with the NPS-UD, MDRS and Plan Change 78. Notwithstanding, the forecast increase in cycling and walking across all five corridors is very modest at just 110 new walking and 110 new cycling trips. A decrease in walking and cycling trips at both Spartan Road and Manuroa Road is anticipated compared to the do-nothing scenario. The change in pedestrians and cyclists takes into account the switch backs on the bridges at Spartan Road and Manuroa Road which results in longer walking distances compared to the at-grade scenario.

4.4.43. Safety for pedestrians and cyclists would be improved by the grade separation.

4.4.44. The ATE considers that the inconvenience of the active mode bridges is tolerable given the safety improvements with the grade separation.

Analysis

4.4.45. The key effect of the project on walking and cycling is the improvement of safety with the grade separation of the level crossings and provision of active mode links.

4.4.46. As identified, there is a very modest increase in the forecast number of pedestrians and cyclists, and in fact a reduction on Spartan Road and Manuroa Road. It is understood that these reductions are due to the switch backs that are necessary to provide accessible ramps for bridges across the railway line. The implication is that the designs will deter active modes on these two routes.

4.4.47. Of particular concern is Manuroa Road. Given that there is proposed to be intensification of development around Takanini Station and that it is anticipated that the at-grade crossing across the railway line at Maru Road will be closed, it will be important to provide good attractive connections across the railway line at Manuroa Road to key destinations including Takanini Station, Takanini School and the neighbourhood centre on Manuroa Road by Princess Street. However, the project appears to not achieve this as there is a forecast reduction in active modes at Manuroa Road.

4.4.48. I am less concerned about Spartan Road as the land uses in the vicinity are unlikely to generate significant pedestrian or cycle demands. However, I consider a facility is required here to avoid significant diversion routes that may result in pedestrians taking risks in crossing the railway line illegally.

4.4.49. I requested further analysis on the operation of the switch backs in a s92 request[6] to understand the change in travel times for pedestrians between the do-nothing and the with project scenario (including additional walking and cycling distance with the switch backs). In the response, details of times and distances were not provided but reference to the Urban and Landscape Design Management Plan was provided highlighting requirements that the design would need to consider. Given that the Manuroa Road crossing is forecast to reduce the number of walking and cycling trips I consider that the ULDMP condition should be amended to ensure the design more appropriately provides for pedestrians and cyclists. Alternative options at Manuroa Road and Spartan Road could be considered, such as an underpass which could be provided so that they are more direct. Any underpass would need to be carefully designed to provide both a safe and attractive environment for pedestrians and cyclists. I am not aware of the option for pedestrian / cycle underpass being considered, only a road underpass.

Public Transport

4.4.50. The project is anticipated to remove risks associated with the level crossings that affect the operation of the level crossings such as barrier failures, faults, or traffic incidents. In addition, the improved east-west connectivity is anticipated to reduce traffic diverting onto other parts of the network that may affect public transport (buses). The Taka Street grade separation could provide a future opportunity for buses to operate along this street.

Analysis

4.4.51. I concur with the assessment that the grade separation of the level crossings will reduce adverse effects on the operation of the rail network as the level crossings will be removed. This will improve the reliability of the rail network by removing effects associated with the operation of the level crossing on the movement of trains. The project will not result in any significant changes to the operation of the bus network compared to the do-nothing scenario.

Parking

4.4.52. ATE Section 6.9 describes the effect on on-street and off-street parking.

4.4.53. Approximately 160 on-street spaces are affected by the proposals across all TLCs. Car parks are removed to provide cycling and walking facilities and for berms. The ATE states that the removal of car parking on arterial roads is in accordance with the Auckland Parking Strategy.

4.4.54. Approximately 273 on-site parking spaces will be affected by the projects, either for temporary construction activities or for permanent works. The ATE states that discussions will be required with individual property owners about reinstatement of

[6] Section 92 Request T7, dated 30 October and response dated 11 November 2023

spaces and compliance with any resource consents where there are specific space requirements within the consent. The ATE notes that the AUP has removed any minimum requirements for car parking.

Analysis

4.4.55. The majority of on-street spaces removed by the project are on Taka Street. I concur that parking is not required on the bridge. However, parking could be reinstated on the accessways, where provided, and where this would not impact on their safe operation. Parking could be reinstated on both Spartan Road and Manuroa Road as these would be cul-de-sacs. Some parking could also be reinstated on the existing Manuia Road where this is not affected by the project. The requirement for reinstating parking should be considered during the development of the design and the NoR conditions should ensure this is taken into account in the design.

4.4.56. There is uncertainty around the effect on on-site parking as this will be dependent on construction methodology and the design of the TLC projects. This has been raised by submitters as a concern, particularly in relation to site specific effects. I consider that the NoR conditions should ensure that the Requiring Authority liaises with stakeholders to reinstate on-site parking. I acknowledge that the AUP has removed minimum parking requirements, however, some businesses may be reliant on on-site parking for their continued operation, particularly if parking is no longer available on the adjacent street network. I consider that the effects on on-site parking have not been adequately addressed.

Property Access

4.4.57. ATE Section 6.10 outlines the effects on property access. Where the grade separation of bridges prevents direct access, parallel accessways/service lanes are proposed to facilitate alternative access arrangements or amended vehicle accesses where able. Where this is not possible the ATE states that full site acquisition is proposed.

4.4.58. Where accessways are proposed, any restrictions on turning movements or provision of flush medians where they connect to the existing road network will be determined during later design phases.

4.4.59. There is an existing access to the Takanini Town Centre from Walters Road that would be affected by the project. There is an existing resource consent condition[7] for Takanini Town Centre (30 Walters Road) that in the event of a road over rail bridge being constructed that the existing access from Walters Road would be closed. The specific condition is replicated below.

> *Closure of Walters Road access*
>
> *101. In the event that the rail over bridge along Walters Road is constructed, the left-turn access shown on the approved plans shall be closed and re-instated in accordance with details which will first have been approved by the Senior Development Engineer (Papakura).*

[7] Resource consent reference number LU 10703 and R/LUC/2012/109331, approved 28 September 2012

Analysis

4.4.60. For the concept design, the project has considered how access can be provided to existing properties and has identified potential mechanisms to facilitate access including accessways / service lanes. Where provided, I consider the use of accessways to be appropriate subject to ensuring the safe and efficient operation of turning movements. Given that the design is concept and is subject to change and that properties may get developed with changing access arrangements over time, I consider that the Existing Property Access condition should ensure that the Requiring Authority will work with stakeholders to provide appropriate access in the future.

4.4.61. Notwithstanding, concerns have been raised by some submitters about the feasibility of providing access to their properties. I discuss these in response to submissions. A schedule of properties may be appropriate where particular access concerns have been identified and where mitigation is required other than that which would be covered by NoR Existing Property Access condition or other conditions.

4.4.62. With regards to Takanini Town Centre, the proposed bridge may prevent an access from Walters Road being provided due to level differences. The resource consent condition 101 (refer paragraph 4.4.59) indicates that there was an expectation that the Walters Road access to the Takanini Town Centre would be removed in the event of a road bridge being constructed. Therefore, In my view, the effect of closing the access on Takanini Town Centre is considered not to be a significant effect. Notwithstanding this resource consent condition, this does not necessarily preclude an access from being provided, should it be feasible to do so. It would be desirable to have a pedestrian (and cycle) connection to the town centre from Walters Road.

Summary

4.4.63. In summary, I consider that:

a) From an overall network operation perspective, that the TLC projects, once all completed, will achieve the objective of increasing the east-west capacity over the railway line at the local level and improving safety at the level crossing.

b) Safety at the level crossings will be improved but I consider that the safety benefits across the network are overstated.

c) I have concerns that the project will have adverse effects on providing access to the adjacent strategic road network (SH1 at Takanini Interchange), and I consider that further information is required on this to determine the effect on the interchange and on the operation of key Great South Road intersections.

d) I am concerned that the reduction in the number of road crossings from four to three will not meet the network resilience project objective with over reliance on Manuia Road.

e) The concept design for overbridges at Spartan Road and in particular Manuroa Road could be a deterrent for active modes to the extent of switch backs on the bridges and therefore the project may not appropriately meet the mode shift project

objective. Alternatives such as underpasses may provide better facilities and enable the designation boundary to be reduced.

4.4.64. I have the following recommendations:

a) Either in evidence or at the hearing, analysis should be provided of the operation of the proposed Manuia Road / Great South Road traffic signals in combination with the operation of the Takanini Interchange to demonstrate that the network would operate efficiently and safely, and the delays associated with the interchange operation.

b) NoR conditions should be included to ensure that the project appropriately addresses the effects on the SH1 Takanini interchange.

c) The results of the s92 modelling of the Manuia Road / Great South Road intersection with updated right turn flows from Great South Road to Manuia Road should be provided either in evidence or at the hearing.

d) Alternative measures be considered for the provision of safe and direct pedestrian and cycle facilities at Spartan Road and Manuroa Road.

e) NoR conditions should ensure that the reinstatement of on-street parking should be considered during the development of the design, where appropriate, considering adjacent land uses and functions of the roads.

f) NoR conditions should ensure that the Requiring Authority liaises with stakeholders to reinstate on-site parking.

g) Site specific conditions to address individual property accesses should be considered where there are significant effects. In the alternative, a schedule of affected properties could be included in the conditions.

4.5. *Assessment of Operational Effects –Corridor Specific*

<u>NoR 1 - Spartan Road</u>

4.5.1. The Spartan Road project closes the level crossing to all but active modes. The project is reliant on the provision of Manuia Road bridge to provide alternative vehicle routes, particularly for heavy vehicles. Manuia Road is proposed to be a level 2 freight route as this will provide access to the Takanini Industrial area.

4.5.2. The project will affect the routeing of heavy trucks from Hall's Cold Chain Logistics and VTNZ which are located west of the railway line. Right turns out of Spartan Road onto Great South Road are currently prohibited. Presently, trucks either perform a U-turn at the southern Great South Road / Takanini Interchange signals or route via Oakleigh Avenue – Manuroa Road – northbound Great South Road to travel north on Great South Road or to access the northbound SH1 motorway on-ramp. With the project, the ATE anticipates that the trucks would route from Spartan Road onto Great South Road southbound, into Manuia Road bridge, U-turn at the Manuia Road / Oakleigh Avenue roundabout before proceeding back along Manuia Road and right onto Great South Road.

4.5.3. The ATE recommends that a preliminary design safe system audit is carried out to consider the movement of trucks from the western side of Spartan Road to determine potential measures to assist these movements, including banning U-turns on Great South Road at the southern Takanini Interchange intersection, allowing right turn movements from Spartan Road or creating a U-turn pocket on the western side of Great South Road to facilitate the U-Turns.

4.5.4. With the Spartan Road project, motorists travelling to / from the eastern side of the railway line on Spartan Road have an additional 500-800m (approximately 2 minutes) to travel via the Manuia Road bridge. The ATE considers that this is not a significant effect.

4.5.5. For walking and cycling the project proposes to provide a walking and cycling connection across the railway line. This is proposed as the diversion routes to alternative crossing locations are significant.

Analysis

4.5.6. For the businesses west of the railway line, the project affects the accessibility to the road network north of Spartan Road. This is of particular concern for large trucks. As outlined above the project anticipates that trucks would be routed via Manuia Road when existing Spartan Road to be able to travel north along Great South Road. Whilst I consider this is a possible route that could be used, this is not a route that would be easily discernible to motorists that are not familiar with the road network. The Hall's Cold Storage business may be able to direct their truck drivers to use this route, however, this would not be the case for VTNZ who would have no control over the routes used by their customers. Furthermore, the operation of the Hall's site could change in the future which may alter the type and management of traffic from this site.

4.5.7. I do not consider that the conditions adequately address the re-routeing of traffic from the properties west of the railway line. I, therefore, consider that a specific NoR condition should be included that would require the project to provide solutions to enable businesses west of the railway line to travel safely to Great South Road north of Spartan Road. Furthermore, I consider that the effects on these heavy vehicle movements during construction of Spartan Road should also be addressed in the NoR conditions to ensure that these can be undertaken efficiently and safely.

4.5.8. For motorists traveling to / from east of the railway line the additional travel distance and time is considered acceptable, particularly as the inherent uncertainty of delays associated with the level crossing operation on Spartan Road would be removed.

4.5.9. The project will change the routeing of traffic through the Spartan Road / Oakleigh Avenue / Westbrook Avenue intersection. There is likely to be increased turning movements between Oakleigh Avenue and Spartan Road with fewer through movements along Spartan Road compared to the do-nothing scenario. The change in balance of flows could adversely affect the safe and efficient operation of the intersection. This is of particular concern given the high number of heavy vehicles using the intersection. No assessment of the operational or safety effects has been undertaken at the intersection due to the change in turning movements. I, therefore, consider that either in evidence or at the hearing that an assessment should be provided of the safe and efficient operation of the intersection. If this is not provided, the NoR conditions should require the project to consider the safe and efficient operation of the intersection.

4.5.10. I support the provision of the walking and cycling bridge over the railway line to provide for active modes and would ensure that pedestrians and cyclist can cross the railway line safely. Without this connection, pedestrians may be tempted to cross the railway line illegally. In recommending this, I note that the design of the facility is likely to include long ramps to ensure that the facility is accessible. This would significantly increase the travel distance compared to the at grade crossing and the ATE has identified that there would be a reduction in users at this location. Alternative measures do not appear to have been considered, such as a pedestrian/cycle underpass. A carefully designed underpass could provide the opportunity for a more direct facility and could reduce the extent of the designation required.

Manuia Road

4.5.11. The Manuia Road project will provide a new connection over the railway line and accommodate traffic diverted from Spartan Road and Manuroa Road. The road is to be designed for freight as it will provide access to the Takanini Industrial area and provide for over-dimension vehicles.

4.5.12. The project will remove properties north of the bridge and therefore no access will be required to be reinstated for these properties. For properties south of the bridge, a connection will be made to the western end of Manuia Road via a priority controlled intersection just east of Great South Road. This would provide access to existing properties and dwellings on the southern side of Manuia Road including the Gateway Takanini retail area.

Analysis

4.5.13. I consider that Manuia Road bridge is essential to providing alternative routes to Spartan Road and Manuroa Road. It will provide for active modes, freight, and general traffic.

4.5.14. The proposed intersection to be formed with the existing Manuia Road is close to the Great South Road intersection and is to be give way controlled. The concept designs show that all movements would be permitted at this intersection. The analysis shows that Manuia Road bridge would be congested for large parts of the day and this could result in operational and safety issues for motorists attempting to turn right into and out of the side road.

4.5.15. Whilst I appreciate that there are low traffic volumes associated with the road (reported as 80vpd in the ATE), I am concerned over the safe operation of this intersection. Whilst a matter of detail that would be addressed in the development of the design, it is possible that restrictions on movements could be imposed which could adversely affect users of this street.

4.5.16. I consider that the applicant either in evidence or at the hearing should consider how the proposed intersection with the existing Manuia Road would be treated to ensure its safe and efficient operation.

Manuroa Road

4.5.17. The closure of the Manuroa Road level crossing is reliant on the Manuia Road bridge for re-routeing of traffic.

4.5.18. There are key local destinations accessed from Manuroa Road including Takanini Station, Takanini School, and the neighbourhood centre east of the level crossing by Princess Street as well as a community centre/church and childcare centres. An existing

pedestrian crossing over the railway line at Maru Road is anticipated to be closed. Therefore, the proposed Manuroa Road walking / cycling bridge provides an important active modes link to these facilities. The bridge will avoid significant diversions for pedestrians and cyclists.

4.5.19. Traffic from properties either side of the level crossing on Manuroa Road wanting to travel across the railway line would be routed via Manuia Road. This is a diversion of additional 300m or so. This will affect a relatively small number of properties.

4.5.20. Turning patterns at the Manuroa Road / Oakleigh Avenue intersection will be changed with the project, with the majority of traffic turning from Oakleigh Avenue to the eastern leg of Manuroa Road and vice versa. There are no changes to the intersection included in the concept design drawings.

4.5.21. Turning heads are proposed on Manuroa Road on both sides of the level crossing to allow for vehicles to turn around on the street.

Analysis

4.5.22. I support the provision of the active modes bridge on Manuroa Road as this is necessary to provide connectivity to key destinations, avoid significant diversions and reduce the risk of pedestrians crossing the railway illegally resulting in potential safety issues.

4.5.23. As noted for Spartan Road in paragraph 4.5.10, the switch backs on the bridge to ensure it is accessible will increase the walking and cycling distance compared to the at-grade level crossing. I acknowledge this is partially offset by the fact the facility will make it safer for these vulnerable road users. Alternative measures do not appear to have been considered, such as a pedestrian/cycle underpass. This could provide the opportunity for a more direct facility and could reduce the extent of the designation. Due to the key destinations in the vicinity of this railway crossing (as outlined in paragraph 4.5.18) I consider that it is important that the facility supports active modes which is a key project objective.

4.5.24. The project will change the routeing of traffic through the Manuroa Road / Oakleigh Avenue intersection. No changes to the intersection are identified on the concept design drawings. The priority will remain along Manuroa Road although the main movements will be between Oakleigh Avenue and the eastern Manuroa Road leg. No assessment of the operational or safety effects has been undertaken at the intersection due to the change in turning movements. I, therefore, consider that either in evidence or at the hearing that an assessment should be provided of the safe and efficient operation of the intersection. If this is not provided, the NoR conditions should require the project to consider the safe and efficient operation of the intersection.

4.5.25. The turning head on the eastern side of the level crossing has been designed so it is central to Manuroa Road and affects the car parking area within the childcare centre at 18 Manuroa Road (refer Figure 1). The design of the turning head was questioned in a s92 Request for Further Information[8] to determine whether the turning head could be redesigned to avoid the property and be offset to the south. The response referred to the Assessment of Alternatives. However, this issue is only dealt with in broad terms and not the specifics of this location. In my view the turning head could be redesigned to avoid, or at least minimise the effects on the parking for the child care centre within

[8] Section 92 Request T12, dated 30 October and response dated 11 November 2023

the proposed designation boundary. I note that the effect on the parking for the child care centre is a concern for the landowner who has provided a submission on the NoR.

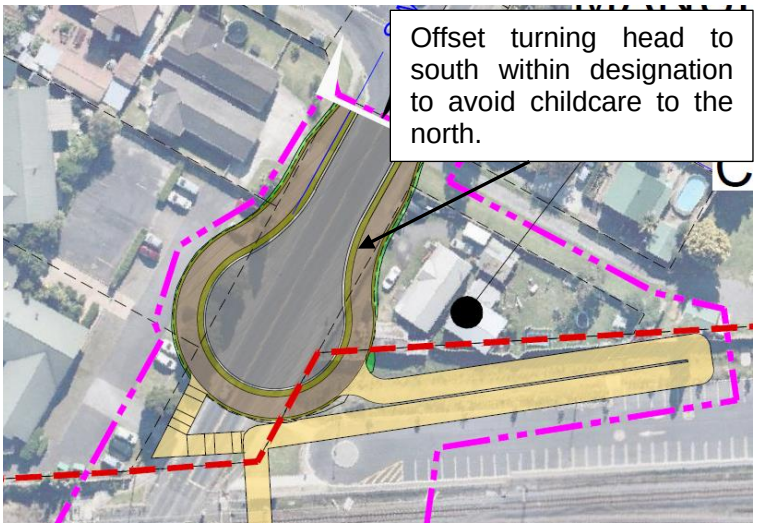

Figure 1 - Manuroa Road turning head east of level crossing

4.5.26. I recommend that the applicant either in evidence or at the hearing demonstrates that it is reasonably necessary to position the turning head within 18 Manuroa Road rather than designing it with an offset to the south.

Taka Street

4.5.27. The project replaces the existing level crossing with a new bridge. Property access is provided by way of accessways / service lanes.

4.5.28. Takanini Road is closed at its intersection with Taka Street for vehicle movements. It is anticipated that pedestrian / cycle access to the new bridge could be provided for an active mode connection to this road.

4.5.29. The Requiring Authority has proposed an amendment to the NoR boundary which would reduce the extent of designation on the property at 166-168 Great South Road but increase the designation on 160 Great South Road. The proposals include amendments to how the property access to 7 and 9-13 Taka Street would be provided.

Analysis

4.5.30. I consider that the proposed bridge will improve the safety and efficiency of movements along Taka Street as this removes the level crossing.

4.5.31. Motorists travelling to Takanini Road will be affected as they would need to divert via Beach Road or Glenora Road. The closure will remove traffic that currently uses Takanini Road as a through route which will make Takanini Road safer for residents.

4.5.32. Property access is proposed to be maintained via accessways and service lanes. I consider that in general these are an appropriate means to provide access to affected properties. However, the means of access to 7 and 9-13 Taka Street is unclear with the proposed amendments to the designation and the effects on 166-168 Great South Road. This is a concern raised in submissions of both 9-13 Taka Street as well as 166-168 Great South Road (Z petrol station). I discuss this issue in response to submissions in Section 5.

4.5.33. For properties to the east of the railway line the access way provides access to properties and all movements to/from Taka Street can be achieved, even if a median island were to be provided on Taka Street.

4.5.34. For the accessway and access west of the rail crossing line, the current design shows a flush median which may facilitate right turn movements. However, due to the proximity of this with the Taka Street / Great South Road intersection, for safety reasons, it may not be possible to maintain these right turn movements. This would affect access to the properties west of the railway line. The effects on these property owners / occupiers would need to be discussed during the development of the project design.

NoR 2 – Walters Road

4.5.35. The Walters Road project will replace the existing level crossing with a bridge.

4.5.36. Access to properties to the west of the railway line would be provided via an accessway / service lane.

4.5.37. For properties to the east of the railway line, properties south of Walters Road are to be included within the designation and it is assumed that these would be purchased for the project. To the north of Walters Road the proposal affects an existing access to the Takanini Town Centre. As noted in paragraph 4.4.59, there is a resource consent that requires the access to be closed in the event of the grade separation of the Walters Road level crossing.

Analysis

4.5.38. I consider that the proposed bridge will improve the safety and efficiency of movements along Walters Road as this removes the level crossing.

4.5.39. The proposed accessway and service lane will facilitate access to properties west of the railway line. These would need to be designed for the movement of heavy vehicles as this land is zoned town centre and light industry. It is not clear if this is the case. Therefore, to provide confidence that there is sufficient width within the designation, either in evidence or at the hearing, the applicant should show that the accessway / service lanes west of the railway line can accommodate the movement of heavy vehicles. I note access to the properties on the western side of the railway line has been raised as a concern by submitters both in terms of practical access arrangements, and the feasibility of operating the sites with the balance of land available.

4.5.40. The project will remove the access from Walters Road into the town centre east of the railway line and result in increased traffic along Arion Road. The ATE assessed the effect of additional left turning traffic from Walters Road to Arion Road and this was shown that the intersection could accommodate this additional traffic. An existing resource consent condition for 30 Walters Road requires the access to be closed in the event of a road bridge being constructed. I therefore consider that there are no significant effects due to the closure of the Walters Road access.

Summary

4.5.41. With regards to the corridor specific assessment I conclude that:

Spartan Road

a) The NoR conditions do not adequately address the effects on the movement of heavy vehicles from properties west of the railway line to be able to travel north of

Spartan Road on Great South Road particularly to access SH1 via the northbound on-ramps which is inconsistent with the project objective to support enhanced access to economic opportunities.

b) The project will change the routeing of traffic through the Spartan Road / Oakleigh Avenue / Westbrook Avenue intersection and the effects on the safe and efficient operation of this intersection have not been assessed.

c) The provision of the active modes connection is supported but the proposed bridge would not be an attractive facility for active modes due to the long switch backs on the bridge, and therefore, would not meet the objective of improving active mode facilities and travel choice. Alternatives for the active mode bridge, such as an underpass have not been considered.

Manuia Road

d) The Manuia Road bridge is essential to providing alternative routes to Spartan Road and Manuroa Road and meets the project objective of enabling safe movements across the NIMT and east-west movements of all users.

e) I am concerned over the safety of the proposed intersection between the new bridge and the connection to the existing Manuia Road due to its proximity to Great South Road intersection.

Manuroa Road

f) I support the provision of the active modes bridge on Manuroa Road as this is necessary to provide connectivity to key destinations.

g) The active mode bridge would not be an attractive facility for active modes due to the long switch backs on the bridge and would not meet the objective of improving active mode facilities and travel choice. Alternatives for the active mode bridge, such as an underpass have not been considered.

h) The project will change the routeing of traffic through the Manuroa Road / Oakleigh Avenue intersection and the effects on the safe and efficient operation of this intersection have not been assessed.

i) The alignment of the turning head on the eastern side of the level crossing has not been sufficiently justified to demonstrate that land required at 18 Manuroa Road for the turning head is reasonably required.

Taka Street

j) The proposed bridge will improve the safety and efficiency of movements along Taka Street as this removes the level crossing.

k) The closure of Takanini Road at Taka Street whilst restricting access from its northern end will make Takanini Road safer for residents.

l) The access lanes are generally supported. However, I have concerns over the means to provide safe and effective access to 7 and 9-13 Taka Street via the proposed access way through 166-168 Great South Road (Z petrol station), and on the effects on the operation of 166-168 Great South Road.

m) I have concerns on the safety of the intersection between Taka Street and the access lane west of the railway line and north of Taka Street due to its proximity

with Great South Road / Taka Street intersection. Right turn movements may need to be restricted affecting property access.

Walters Road

n) I consider that the proposed bridge will improve the safety and efficiency of movements along Walters Road as this removes the level crossing.

o) I am concerned about the feasibility of the access lane arrangements to the properties north of Walters Road west of the railway line and the ability to accommodate the movement of heavy vehicles.

p) The project will remove the access from Walters Road into Takanini Town Centre east of the railway line. I do not consider this would result in any significant effects.

4.5.42. I have the following recommendations:

a) NoR conditions should provide appropriate measures to enable heavy vehicles from Spartan Road properties west of the railway line to travel safely to Great South Road north of Spartan Road both during project operation and construction.

b) Either in evidence or at the hearing an assessment should be provided of the safe and efficient operation of the Spartan Road / Oakleigh Avenue and the Manuroa Road / Oakleigh Avenue intersection. If this is not provided, the NoR conditions should require the project to consider the effects of the project on the safe and efficient operation of the intersections.

c) Either in evidence or at the hearing the Requiring Authority should provide an assessment of alternative measures for an active mode connection at Spartan Road and Manuroa Road, such as a pedestrian/cycle underpass. The assessment should consider the effects of alternatives on the land required.

d) Either in evidence or at the hearing the Requiring Authority should consider how the proposed intersection with the existing Manuia Road would be treated to ensure its safe and efficient operation, including any restrictions in turning movements.

e) Either in evidence or at the hearing, it should be demonstrated that it is reasonably necessary to position the turning head within 18 Manuroa Road rather than designing it with an offset to the south.

f) Either in evidence or at the hearing, access arrangements for 7 and 9-13 Taka Street via 166-168 Great South Road should be provided to demonstrate how the access would operate safely and address effects on the operation and safety of 166-168 Great South Road.

g) Either in evidence or at the hearing, an assessment of safe and efficient operation of the access lane west of the railway line and north of Taka Street at its intersection with Taka Street should be provided and any turning restrictions identified which could affect vehicle routeing.

5. Submissions

5.1. Submissions have been reviewed and issues relevant to traffic and transportation are discussed below. Due to the extent of submissions, themes have been identified and, these have been discussed together. Where submissions relate to site specific matters, these have been addressed separately.

5.2. The themes that have been identified are outlined in Table 5.

Table 5 - Summary of Submission Themes

Submission Topic	Sub-issue	Submission	
		NoR 1	NoR 2
Operational Effects			
Assessment of Alternatives	Assessment is deficient	31	
	Inadequate assessment – request underpass	4	3
	Grade separation options	5, 10, 13, 14, 24, 37,38,39,40	9, 15,17, 18,19,20
	Assessment of alternative alignments (Manuia Road bridge)	10, 22	
Access to wider network	Spartan Road	2, 10	
	Legible access to public transport (9-13 Taka Street)	11	
	1 and 15 Spartan Road	21, 29	
Assessment of effects	Assessment not proportional to the effects	37, 38, 39, 40	17, 18, 19, 20
	Assessment of effects on freight inadequate	31, 37, 38, 39, 40	17, 18, 19, 20
	Walters Road / Great South Road intersection		19, 20
	FDS not taken into account in assessment		10, 11
Network Operation	Capacity of Great South Road intersections	10, 22	
	Capacity of Manuia Road	12	
	General capacity of east-west links	28, 32	
	Capacity of Oakleigh Road	10, 13, 14, 16, 20, 45	
	Effects on transport including freight	31	
	Effects on Walters Road and Walters Road / Tironui Road	38	18
	Capacity of Walters Road		4
	Traffic volumes on Walters Road differ between NoR2 and South FTN NoR 4		10, 11
	Effects on Arion Road		13
Freight	Trucks on Manuroa Road and freight routes / over dimension routes	4, 10, 13, 14, 22	3
	Effects of closing Spartan Road on diversion of heavy vehicles	10, 21	
	No assessment of heavy vehicles on Hitchcocks Road	12, 15	
	Access to premises at 26 Oakleigh Avenue	13, 14	
Parking	Removal of on-street parking	4, 31	3

Submission Topic	Sub-issue	Submission	
		NoR 1	NoR 2
	Removal of on-site parking – General	4, 31	3
	Removal of on-site parking – site specific: • 18 Manuroa Road	7	
	• 9-13 Taka Street	11	
	• 37-39 Oakleigh Avenue	15	
	• 1-15 Spartan Road	29	
	• Takanini Town Centre		17
	• 12 Walters Road		19
	• 20A Walters Road		20
	• Southgate Shopping Centre		20
Property Access	• General	4	3
	• 18 Manuroa Road	7	
	• 9-13 Taka Street	11	
	• 33 Oakleigh Avenue	12	
	• 37-39 Oakleigh Avenue (truck access)	15	
	• 16 Spartan Road	20	
	• 20 Spartan Road	46	
	• 22 Oakleigh Avenue	27	
	• 1 and 15 Spartan Road	29	
	• 106 Great South Road	30	
	• Takanini Town Centre (30 Walters Road)		3, 17
	• 12 Walters Road, 230 Great South Road		19, 20
	• 166-168 Great South Road	42	22
Changes to proposals requested	Future proofing for Mill Road / implement Mill Road project	10, 14, 19, 20	
	Amend Manuia Road / Oakleigh Avenue roundabout layout	15	
	Amend Oakleigh Avenue / Spartan Road intersection layout	15	
	Widen Manuroa Road	32	
	Traffic signals at Oakleigh Road / Manuroa Road	45	
Safety	Cyclist safety (Spartan Road)	10, 21, 22	
	Pedestrian safety (Oakleigh Avenue)	13, 14	
	Ped / cycle safety Spartan and Manuroa Road bridges	37, 38,39,40	
	Operation of Walters Road		19, 20
Effects on operation of sites	• 72-86 Great South Road	17	
	• 16 Spartan Road	20	
	• 102 Great South Road	23	
	• Severance from other site operations (1-15, 58 and 81 Spartan Road)	29	
	• Assessment of effects on 166-168 Great South Road	42	22
	• Effects on infrastructure on 166-168 Great South Road	42, 42, 42	22,
	• 1-3 Walters Road	38	18
	• 12 Walters Road		1, 5
	• 20A Walters Road		20

Submission Topic	Sub-issue	Submission	
		NoR 1	NoR 2
Pedestrians / Cyclists	Accessibility of Spartan Road and Manuroa Road bridges	25, 43	23
	Investigate alternative connections to Takanini station	43	23
	Pedestrian connections on Tironui Road		8
Design detail	Lack of sufficiency of design detail	22	
	All bridges should be multi-modal	28	
	Length of Walters Road bridge		4
	Certainty of design between NoR 2 and South FTN NoR 1 on Walters Road		10, 11
	Effects of design on 164-166 Porchester Road (Walters Road frontage)		10, 11
Conditions	Future proofing for widening of rail corridor	33	12
Construction Traffic Effects			
Construction staging	Timing of level crossing closures for construction	15, 26, 28, 28, 29, 31	
	Effects on freight	4	3
	Inadequate assessment of traffic effects in vicinity of Takanini Town Centre		17, 18, 19, 20
Property Access	• 18 Manuroa Road	7	
	• 9-13 Taka Street	11	
	• 33 Oakleigh Avenue	12	
	• 37-39 Oakleigh Avenue (truck access)	15	
	• 16 Spartan road	20	
	• 164-166 Porchester Road (Emergency access)		10, 11
	• 12 Walters Road		19
Car Parking removed	• 9-13 Taka Street	11	
	• General	31	
	• Takanini Town Centre		17
	• 12 Walters Road		19
Pedestrians	Pedestrian connections		8

5.3. *Assessment of Alternatives – Operation*

5.3.1. Submitters have raised concern that the Assessment of Alternatives is inadequate or deficient and further consideration should be given to grade separation of the railway line rather than the road.

5.3.2. The Assessment of Alternatives describes the assessment of the various grade separation options including lowering or raising rail in comparison to the road. This has been examined in a number of studies. A range of criteria have been considered many of which are non-transportation related. I am unable to comment on the rail aspects as this is outside my area of expertise. However, with regards to non-rail transportation, it is acknowledged that lowering or raising the rail in relation to the road will reduce the transport effects, particularly for property access and provide more direct and efficient

facilities for pedestrians and cyclists. For either option of rail under or over the road, significant works would be required for the reconstruction of Takanini Station and there would be significant disruption to rail during the construction works. The Assessment of Alternatives outlines constraints at Spartan Road that would physically prevent raising or lowering the rail due to SH1 motorway bridges and a significant stream to the north, respectively. It is understood that these are the key reasons for not progressing lowering or raising rail in relation to the road. I note that the railway line through New Lynn was lowered to be in a trench during the late 2000's and early 2010's and required five road bridge crossings of the railway line, however, this was over a significantly shorter length.

5.3.3. From a transportation perspective, I consider that the assessment of the options in relation to grade separating rail to be sufficient.

5.3.4. Submitters have suggested that it would be preferable to provide a road underpass rather than a bridge.

5.3.5. The Assessment of Alternatives considered the range of options of grade separation of the roads at the various locations. This included a broad range of technical assessments and the selection of the bridge option (road-over-rail) was identified as the preferred alternative. From a transport perspective the Assessment of Alternatives scored an overbridge and an underpass similarly. Connectivity across the railway line is provided by both options as well as access to properties. Whilst the concept design is for a bridge, to provide access to local properties a similar layout form to the bridge option with access lanes would likely be required (refer to Figures 8-1 and 8-3 of the Assessment of Alternatives). The ultimate decision of bridge versus underpass needs to consider wider criteria than just transport which I am unable to comment upon. It is noted that whilst the concept design is for a bridge, this does not necessarily preclude an underpass if this is considered appropriate in the future.

5.3.6. The Assessment of Alternatives appears to only concentrate on the choice between a road underpass and bridge. For the active mode connections at Spartan Road and Manuroa Road, the assessment does not seem to have specifically considered the relative merits and disbenefits of underpasses and bridges. In this regard, I do not consider that the Assessment of Alternatives to have sufficiently considered the alternatives at these locations.

5.3.7. I recommend that either in evidence or at the hearing that the Requiring Authority provide an assessment of underpass and bridge options for the active mode connections at Spartan Road and Manuroa Road, including consideration of the effects on land reasonably necessary for the project.

5.3.8. Some submitters have raised concerns with the removal of Manuroa Road and relying on the Manuia Road bridge to accommodate traffic from the Spartan Road and Manuroa Road corridors.

5.3.9. With regards to whether Manuroa Road is retained or not, this was assessed in the Assessment of Alternatives Section 7.3.4 in relation to options for crossings at either Manuroa Road or Taka Street, or both. The assessment considered that there was little benefit of keeping both Manuroa Road and Taka Street open compared to only Taka Street open, however, from a transport perspective keeping both links open performed the best of the options considered. The reasons to close Manuroa Road were not transport related.

5.3.10. The Assessment of Alternatives does not appear to have considered the retention of the Manuroa Road in relation to options for the closure of Spartan Road and the provision of Manuia Road bridge. The closure of Manuroa Road places reliance on the new Manuia Road bridge which could impact on network resilience in the case of an incident on the bridge. This would impact on the movement of freight which would require significant diversions, possibly through residential areas (e.g. if routed via Takanini School Road to travel to Taka Street).

5.3.11. It is acknowledged that there are other criteria other than transport that resulted in the selection of the option to close Manuroa Road.

5.3.12. It is recommended that further assessment or evidence be provided by the Requiring Authority either in evidence or at the hearing to support the closure of Manuroa Road, particularly in regard to the network resilience taking into account the availability of rail crossings between Spartan Road and Taka Street.

5.3.13. Some submitters are concerned that the Assessment of Alternatives has not adequately considered different alignments of the proposed Manuia Road bridge.

5.3.14. The Assessment of Alternatives considered a range of options for the Manuia Road bridge and identified Option 4-0 and Option 4-3 as scoring most favourably. Option 4-3 would provide a connection to Great South Road just south of the Takanini interchange. The proximity of such a connection would increase the complexity of the interchange which is likely to result in adverse operational effects and could result in safety issues. This is highlighted in Section 7.2.4 of the report. On this basis Option 4-0 (the current proposed NoR alignment) was preferred.

5.3.15. Due to the possible effects on the safe and efficient operation of the interchange it is concurred that the current NoR alignment which connects to the Great South Road at the existing Manuia Road intersection would be more appropriate than an alignment further to the north.

5.3.16. Assessment of Alternatives Section 10.3.1 further considered options for the alignment of Manuia Road and the NoR alignment was identified as being preferred. I am comfortable that this assessment is appropriate.

5.4. *Access to Wider Network – Operation*

5.4.1. NoR 1 Submitter 11 seeks that there is legible access to their site at 9-13 Taka Street. The current site is located in close proximity to Takanini Station and staff and visitors utilise public transport to travel to and from work.

5.4.2. ATE Section 6.4.2 states that pedestrian access will be available between Takanini Road and Taka Street, potentially through a direct access via stairs / ramp. This would maintain access to the station. Pedestrians from the submitter's site would be able to utilise the proposed Taka Street slip lane to access footpaths on the Taka Street bridge.

5.4.3. It is noted that there are currently no bus stops on Taka Street so access to buses would not be affected. Buses do service the station, and access to these would be via the station.

5.4.4. The CTMP condition requires the identification of detour routes for pedestrians during construction, which would include suitable routes to public transport such as Takanini Station.

5.4.5. NoR 1 Submitter 2 is concerned about the exposure of their business to passing trade with the closure of Spartan Road and the accessibility to Great South Road and seeks that the NoR be declined.

5.4.6. The access to the submitter's site at 38 Spartan Road is not directly affected by the NoR. The site is located on the northwestern corner of the Spartan Road / Oakleigh Avenue intersection. Traffic that currently uses Spartan Road will divert via Oakleigh Avenue and Manuia Road to access Great South Road. Due to the location of the property, it will continue to be exposed to passing traffic. On this basis I do not consider that there are any significant adverse effects in terms of traffic and do not support the relief sought.

5.4.7. NoR 1 Submitter 10 is concerned that with the closure of Spartan Road businesses may relocate as access to the wider road network would be impacted by the closure.

5.4.8. The existing accessibility from Spartan Road onto Great South Road and to SH1 has restricted turning movements. Businesses east of the railway line will benefit from improved accessibility via the proposed Manuia Road bridge which will provide better accessibility to the strategic road network (SH1 Southern Motorway) at the connection with Great South Road, and business on Oakleigh Avenue would have reduced travel distances. It is further noted that any delays associated with the level crossings would be removed by the Project which would improve journey time reliability for businesses, particularly with increased frequency of train operations.

5.4.9. No changes to the NoR or conditions are required in this regard.

5.4.10. Submissions by the owners and tenant of land at 1 to 15 Spartan Road has expressed concern about the effects on accessibility from their site to the motorway with the closure of Spartan Road.

5.4.11. The proposed NoR does not affect heavy vehicles accessing the site from the motorway when travelling from the north or from the south, and for trucks travelling south on the motorway. These trucks would use the existing routes. Accessibility in terms of journey times to Great South Road from the site is likely to be improved as there would be a significantly fewer vehicles using Spartan Road with the project.

5.4.12. For heavy vehicles travelling to the north to the motorway, many of these vehicles currently exit right from the site onto Spartan Road and travel via Oakleigh Avenue, Spartan Road and Manuroa Road to then access Great South Road before reaching the northbound motorway on-ramp. This movement will no longer be available with the closure of the level crossing.

5.4.13. The Requiring Authority has proposed that with the project, that heavy vehicles would turn left onto Spartan Road, then southbound onto Great South Road, into Manuia Road where they would U-turn at the new Oakleigh Road roundabout before travelling back onto Great South Road. ATE Section 7.1.3.1 states that the existing route used by trucks is 1.8km and the proposed route is 1.7km. Therefore, the travel distance is similar. It also states that the travel times are similar.

5.4.14. The ATE states that there is the potential to create a U-turn facility within the Takanini Interchange to allow large vehicles to make a U-turn. The ATE further recommends that a preliminary design safe system audit and Road Safety Audit be undertaken of the movement of vehicles from sites west of the railway line on Spartan Road.

5.4.15. The ATE demonstrates that there are potential alternative routes or mechanisms to allow for the movement of heavy vehicles to the motorway network from the submitter's site.

5.4.16. I recommend that the requirement that a preliminary design safe system audit and road safety audit be undertaken (for operation and construction) be included in the NoR conditions.

5.5. *Assessment of Effects - Operation*

5.5.1. Submissions for NoR 1 and NoR 2[9] have raised concerns that the assessment undertaken is not proportional to the effects. For example "*significant traffic adverse effects will be created with disjointed connectivity and disruption of the existing urban form with a reduced amount of east-west connectivity across Takanini*."

5.5.2. The ATE has assessed the effects of the project from a transport perspective at both the network wide level and considering the specific effects on each of the five crossing locations of the railway line. ATE Section 6.4.1 has assessed the overall traffic effects including the capacity of the east-west connectivity with the project. This indicates that with the removal of the level crossings and even with the reduction in the number of road crossings across the railway line that there is an overall increase in capacity across the railway line, particularly in the peak periods.

5.5.3. Notwithstanding, I have raised concerns in my assessment that the Project may affect the resilience of the network with the reduction in the number of crossings and possible alternative routes for crossing the railway line north of Taka Street, with reliance on a single bridge at Manuia Road. In this regard, I do not consider that the Project is consistent with the objective of improving network resilience in the event of an incident that affects the operation of Manuia Road and recommend further assessment in relation to this issue.

5.5.4. Submissions for NoR 1 and NoR 2[10] considers that the assessment of effects on freight movements, including the over dimension route are inadequate.

5.5.5. The ATE provides detailed assessment of the effects of the movement of vehicles with various bridges in NoR 1 and NoR 2 during the project operation. This assessment applies to freight and particular consideration was given to how freight is affected in the vicinity of Spartan Road with the closure of this level crossing.

5.5.6. The ATE identifies that the over dimension route would be rerouted and that this had been discussed with the freight industry. It is understood that the concept designs have taken into account the over dimension route in the design of intersections and proposed corridors. I note that no submission was received from any organisation representing the freight industry.

5.5.7. I consider that the ATE has given appropriate consideration to the effects of the proposals in regard to freight.

5.5.8. NoR 2 submitters[11] have raised concerns regarding the effects on the safety of the Walters Road / Great South Road roundabout.

5.5.9. No changes are proposed for the Great South Road roundabout, other than minor works to the Walters Road approach. Therefore, the safe operation of the roundabout should

[9] NoR 1 Submissions 37, 38, 39, 40 and NoR 2 Submissions 17, 18, 19, 20
[10] NoR 1 Submissions 37, 38, 39, 40 and NoR 2 Submissions 17, 18, 19, 20
[11] NoR 2 Submissions 19, 20

not be affected by the project. Furthermore, the removal of the level crossing will remove the risk that queues from the level crossing would be block back to the roundabout. This would improve the safety of the roundabout.

5.5.10. No changes to the NoR or conditions are required in this regard.

5.5.11. NoR 2 Submitters 10 and 11 are concerned that the assessment has not taken into account recent planning decisions, including the approval by Auckland Council of the Future Development Strategy (**FDS**) and possible reduction in development in Takanini which may affect the need for the Project.

5.5.12. The ATE pre-dates Auckland Council's decision on the FDS and does not take into account any changes that may flow from this decision. The project objectives include objectives around improving safety across the NIMT, supporting east-west movements across the NIMT for all road users, supporting growth and access to economic and social opportunities, improve resilience, efficiency and reliability of the network and supporting mode shift through active mode facilities. The removal of the level crossings will improve safety for all road users and will improve the efficiency of movements east-west as there will no longer be delays associated with the level crossings. Therefore, even if the volume of future traffic flows were to be less than assessed in the ATE, key project objectives would still be applicable and achieved. However, it may have implications for timing of the whole or parts of the project. It is considered, that the FDS should not have a material bearing on the need for the NoRs in relation to traffic and transportation.

5.6. *Network Operation*

5.6.1. NoR Submitters 10 and 22 considers that the main congestion issue is currently the traffic signals with Great South Road rather than the rail crossings (although acknowledges that there will be increased operation in the future).

5.6.2. It is concurred that following construction of the bridges that the intersections will become the main limiting factor in terms of capacity for the east-west connections over the NIMT. This is of particular concern at the Manuia Road / Great South Road intersection which will accommodate traffic from both Spartan Road and Manuroa Road. Traffic modelling in the ATE summarised in ATE Section 6.4.4 indicates that the intersection would operate at a Level of Service C which is generally considered to be acceptable. However, queues are noted at the intersection that will require mitigation, including changes to signal timings / phasing and the provision of a full length lane on Manuia Road dedicated for the right turn movement to Great South Road.

5.6.3. As I have highlighted, I have concerns on the effects of the NoR on the operation of the strategic road network and its effects of queues blocking back from the SH1 northbound on-ramp onto Great South Road. These queues could impact on the efficient (and safe) operation of the Manuia Road / Great South Road intersection as there will be traffic, particularly industrial related traffic (and commuters), that would be destined to use the SH1 Southern Motorway ramps.

5.6.4. I have recommended that the Requiring Authority provide further analysis of the operation of the SH1 Takanini Interchange to demonstrate the effects on access to the strategic road network with the NoRs and the efficient operation of the Manuia Road / Great South Road intersection.

5.6.5. NoR 1 Submitter 12 is concerned about the capacity of Manuia Road bridge to accommodate traffic diverted from the closure of both Spartan Road and Manuroa Road.

NoR 1 Submitters 28 and 32 considers that congestion will occur when reducing the number of vehicle crossing over the railway line from three to two (between Taka Street and Spartan Road).

5.6.6. The ATE Section 6.4.1 discusses the network performance and indicates that Manuia Road bridge will have sufficient capacity to accommodate the traffic volumes across the bridge. In response to Section 92 requests (refer to response to Item T1), the Requiring Authority acknowledges that the bridge "*has the potential to be busy during the peak periods especially the AM*". The project relies on the use of Manuia Road bridge to replace Spartan Road and Manuroa Road connections. The capacity of the link is likely to be determined by the operation and capacity of the intersections at either end, particularly the Great South Road intersection. Should an incident occur on the bridge or intersections, such as a crash, this would impact on network resilience. This would affect the movement of freight in particular, and would require significant diversions, possibly through residential areas (e.g. if routed via Taka Street).

5.6.7. The Assessment of Alternatives does not appear to have considered network resilience in determining the strategy for closing Spartan and Manuroa Road crossings. However, it is acknowledged that there are other criteria other than transport that resulted in the selection of the option to close Manuroa Road.

5.6.8. I recommend that further assessment or evidence be provided by the Requiring Authority to support the closure of Manuroa Road, particularly in regard to the network resilience taking into account the availability of rail crossings between Spartan Road and Taka Street.

5.6.9. Various submissions[12] have been made concerning the capacity of Oakleigh Road and with traffic being funnelled onto Manuia Road bridge. The issue of the Manuia Road bridge is dealt with in paragraphs 5.6.5 to 5.6.8.

5.6.10. The proposed designation will change the volumes of traffic on Oakleigh Avenue with the closure of Spartan Road and Manuroa Road. Figure 37 of the ATE shows the daily traffic flow changes and this indicates an increase on the northern section north of Manuia Road bridge and a reduction on the section south of the bridge. Likewise the number of heavy vehicles on the northern section of the road is likely to increase (which has industrial land uses). On the southern section of Oakleigh Avenue, the number of heavy vehicles is likely to reduce as heavy vehicles that currently use Manuroa Road to exit the Spartan Road area will no longer be able to do so (e.g. freight from the Halls site). The southern section is a mix of residential, commercial, and industrial activities.

5.6.11. The reduction in traffic on Oakleigh Avenue appears to occur due to motorists diverting from Manuroa Road to Taka Street (assuming the Taka Street bridge is constructed).

5.6.12. Oakleigh Avenue is approximately 11m in width and this is sufficient to accommodate two lanes of traffic plus parking either side.

5.6.13. Given the above forecast changes in traffic flows, I consider that measures for safety on Oakleigh Avenue, particularly the southern section, are not required as part of the NoR.

5.6.14. NoR Submitter 31 is concerned about the operational effect on transport, including freight.

[12] NoR 1 Submissions 10, 13, 14, 16, 20, and 45

5.6.15. The ATE has provided an assessment of the operational effects. The Manuia Road bridge provides an alternative bridge to Spartan Road and Manuroa Road. This new bridge connection will improve connectivity to the SH1 motorway, particularly for freight and northbound motorists. Removal of the level crossings will remove delays associated with the level crossings that would otherwise increase with the greater frequency in the operation of level crossings. Journey time reliability will be improved.

5.6.16. Safety for all road users will be enhanced with the removal of the level crossings as there will no longer be conflicts with trains.

5.6.17. The Requiring Authority has acknowledged in Section 92 response to Item T1 that with the reduced number of connections across the railway line that Manuia Road bridge would be "*busy*". The constraint on capacity is likely to be the operation of intersections with Great South Road.

5.6.18. NoR 2 Submitter 18 is concerned on the potential adverse effects on the Walters Road / Tironui Road intersection.

5.6.19. The intersection will need to be designed to appropriate standards and the project will be subjected to safety audits.

5.6.20. Examination of the concept design indicates that the right turn movement out of Tironui Road is to be prohibited. Motorists wanting to turn right out would be able to U-turn at the Great South Road roundabout.

5.6.21. It is not clear if the right turn into Tironui Road is to be banned. Motorists could divert to the Great South Road / Tironui Road intersection to access the street. Whilst the banned turn would improve safety and improve the operation of the Walters Road / Tironui Road intersection, the diversion would be less convenient for those accessing properties towards the northern end of the road.

5.6.22. It is recommended that the Requiring Authority provide details as to the anticipated restriction on turning movements at the intersection and any associated traffic effects.

5.6.23. NoR 2 Submitter 4 is concerned that there would be traffic buildup on Walters Road due to removal of level crossings and traffic using the new overpasses at Taka Street and Walters Road.

5.6.24. The ATE Section 6.4.1 and Figure 37 provides details of the forecast traffic volumes on the network which does result in increased flows on both of these routes. However, without the project, the increased frequency of operation of the level crossings will result in increasingly greater delays to traffic which will result in general impacts on the road network in terms of delays, queues, and journey reliability. The Project removes these constraints.

5.6.25. NoR 2 Submitters 10 and 11 have raised a concern over differences in traffic volumes presented in the ATE for the TLC NoR and the South FTN ATE.

5.6.26. I am unable to comment on the reason for the differences in these traffic volumes. It is recommended that differences in traffic volumes on Walters Road should be explained by the Requiring Authority and noise calculations for NoR 2 (or NoR 4 for the FTN) updated accordingly.

5.6.27. NoR 2 Submitter 13 is concerned that the closure of Manuroa Road will divert traffic to Arion Road with the Project in place.

5.6.28. ATE Section 6.4.1 and Figure 37 presents details of changes in daily traffic volumes across the network. The assessment indicates that there would be a relatively small increase in traffic volume on Arion Road with both NoR 1 and NoR 2 completed. The change in traffic volumes on Arion Road are not reported. However, based on the traffic volume plot, it is considered that the effect on Arion Road is unlikely to be significant.

5.7. *Freight – Operation*

5.7.1. Submitters[13] have raised concerns about the effects of heavy trucks traversing Manuroa Road which is a residential street.

5.7.2. The existing over dimension route runs along the whole length of Manuroa Road. The NoR will re-route the over dimension route via Oakleigh Avenue and Manuia Road. Therefore, there will be a reduction in over dimension vehicles on Manuroa Road west of Oakleigh Avenue. It is understood that the change to the over dimension route has been agreed with the relevant freight bodies and the designs have taken into account the need to accommodate these vehicles.

5.7.3. The Manuia Road bridge will also reduce general freight from Manuroa Road as freight from the industrial area will no longer need to travel along Manuroa Road to reach Great South Road. This is a positive effect.

5.7.4. NoR 1 Submitters 10 and 21 are concerned that the effect of closing Spartan Road will be to divert heavy vehicles to use Manuia Road bridge as an alternative which will increase journey times and require intersections to be designed for these vehicles.

5.7.5. The freight operation from the Halls site on Spartan Road frequently uses Oakleigh Avenue, Manuroa Road and Great South Road to access the motorway rather than use the Spartan Road / Great South Road intersection and U-turn at the interchange. The Project assumes that those heavy vehicles from the western side of Spartan Road would travel south on Great South Road, turn into Manuia Road, U-turn at the Oakleigh Avenue roundabout before travelling back towards Great South Road.

5.7.6. The ATE Section 7.1.3.1has assessed the journey times for these vehicles compared to the original routeing. The ATE has assessed the travel times for the routeing as described above to be similar in terms of time and distance. The assessment has not taken into account the operation of the level crossings in the existing situation which can introduce further delays to motorists that use the Spartan Road – Oakleigh Avenue – Manuroa Road route. The ATE Section 7.1.3.1 recommends the undertaking of a design safe system audit / road safety assessment to be undertaken of measures to manage the routing of heavy vehicles from west of the railway line.

5.7.7. It is concurred that intersections will need to be designed to accommodate large vehicles, and it is understood that the concept design has done so. I have provided recommendations that the design of the intersections at Oakleigh Avenue / Spartan Road and Oakleigh Avenue / Manuroa Road intersections should be reviewed as the priority movements at these intersections will change with the closure of Spartan Road and Manuroa Road.

5.7.8. I have recommended that NoR conditions should require a design safe system audit / Road Safety Audit for the routeing and turning of heavy vehicles that are affected by the closure of the Spartan Road level crossing as recommended by the ATE.

[13] NoR 1 Submission 4, 10, 13, 14 and 22, and NoR 2 Submission 3

5.7.9. NoR 1 Submitters 12 and 15 have raised concerns that heavy vehicles on Hitchcock Road have not been taken into consideration.

5.7.10. The traffic modelling in ATE Appendix B for the proposed Oakleigh Avenue roundabout has the percentage of heavy vehicles as 0%. The submitter has highlighted that this road is frequently used by heavy vehicles. It is also noted that the volume of vehicles using this road is the same in all time periods. Whilst the use of Hitchcock Road is likely to be low (as it serves only a small number of properties), to ensure that the effects of the heavy vehicles have been taken into account, the number of vehicles (including heavy vehicles) using Hitchcock Road should be confirmed and the modelling should be updated accordingly.

5.7.11. It is recommended either in evidence or at the hearing that updated SIDRA modelling be provided for the Oakleigh Road roundabout with heavy vehicles included for Hitchcock Road and the volume of vehicles using the road confirmed.

5.7.12. NoR 1 Submitters[14] are concerned that business traffic and freight access will be seriously affected particularly from the submitter's site at 26 Oakleigh Avenue.

5.7.13. The Manuia Road bridge will improve connectivity to the strategic road network by avoiding the constraints on turning movements at the Spartan Road / Great South Road intersection and improving general connectivity to Great South Road from Oakleigh Avenue with shorter travel distances. Delays and reliability issues associated with the operation of the level crossings will be removed through the project. Delays for vehicles turning right to Manuroa Road from Oakleigh Avenue due to queues on Manuroa Road due to the operation of the level crossing will be avoided.

5.7.14. It is noted, by the Requiring Authority, that the operation of the Manuia Road bridge will be "*busy*." In addition the capacity of Manuia Road will be constrained by the Manuia Road / Great South Road intersection.

5.7.15. I have provided recommendations around the need for further assessment to support the closure of the level crossings, particularly in regard to the network resilience taking into account the availability of rail crossings between Spartan Road and Taka Street.

5.8. *On-Street Parking - Operation*

5.8.1. Several submitters[15] are concerned about the removal of on-street parking.

5.8.2. For the road bridges, on-street parking is not required as there is no access to adjacent properties, furthermore, provision of on-street parking would increase the width of structures and thus the area of land required for the designation.

5.8.3. There is likely to be opportunities on Spartan Road and Manuroa Road to replace parking to provide for local needs except within the turning heads. In addition, on the remaining section of the existing Manuia Road, there are likely to be opportunities to provide on-street parking.

5.8.4. The provision of parking will be dependent on adjacent land uses, the function of each of the roads, local demands, and the practicality of providing parking. This detail would be best resolved at the detailed design stage once further detail is known on the actual layout of the proposals and the adjacent land uses.

[14] NoR 1 Submissions 13 and 14
[15] NoR 1 Submissions 4, 31 and NoR 2 Submission 3

5.9. *Off-Street Parking – Operation*

5.9.1. In terms of general effects on loss of off-street parking, submitters[16] have raised this as a general overall concern.

5.9.2. The effect on off-street parking would be best resolved at the detailed design stage once further detail is known on the actual layout of the proposals and the land uses that are affected. There may be resource consent requirements for parking that could be affected if parking is removed, although it is noted that there are no longer minimum requirements for parking in the AUP. Notwithstanding, other submitters have raised site specific concerns and these are addressed individually below; it may be appropriate to deal with these as part of the NoR process or though conditions rather than leave them to detailed design.

5.9.3. It is recommended that the NoR conditions should require the Requiring Authority to liaise with effected stakeholders on the reinstatement of off-street parking.

5.9.4. NoR 1 Submitter 7 has stated that the removal of on-site parking will have direct impact on the operation of the child care centre at 18 Manuroa Road where there are specific Ministry of Education requirements with regards parking.

5.9.5. The MoE requirement for parking is acknowledged. However, it is also noted that the AUP no longer requires a minimum number of car parks.

5.9.6. The removal of the car parks is due to the proposed cul-de-sac turning head which is positioned centrally about the centre line of Manuroa Road and encroaches into the submitter's site requiring the removal of the car parks.

5.9.7. It is considered that the turning head could be designed so that it is asymmetrically located with the turning head positioned towards the southern side of Manuroa Road. A similar arrangement has been proposed for the turning head on the western side of the railway line. This would avoid the impact on car parking for this site. The image below shows the outline of the asymmetrical turning head on the western side of the railway line overlaid on the eastern side. This indicates it can be accommodated within the proposed designation boundary without affecting the submitter's site. Access arrangements to the site would need to be amended but this is a matter of detail that can be addressed during subsequent design stages.

[16] NoR 1 Submissions 4, 31 and NoR 2 Submission 3

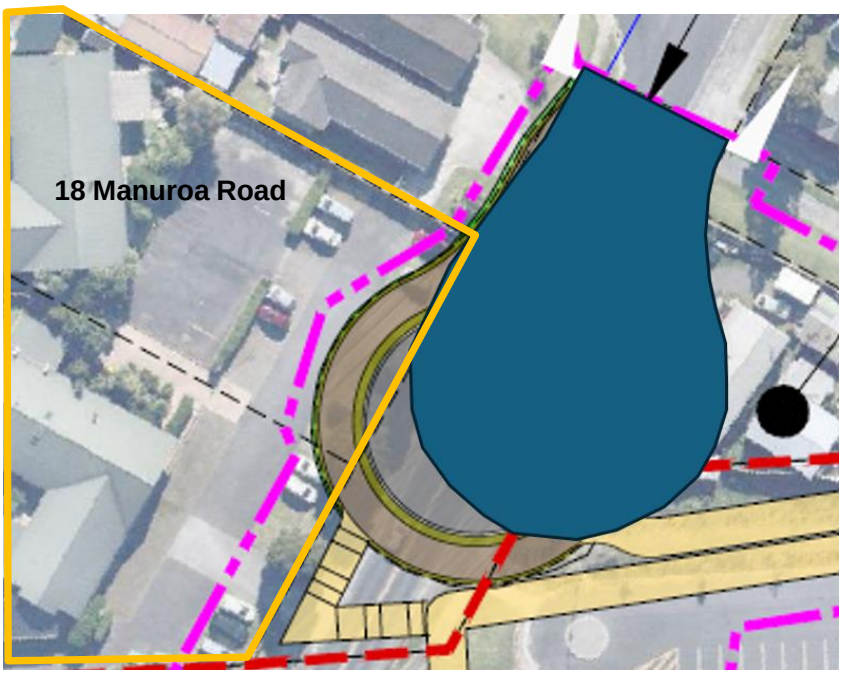

Figure 2 - Manuroa Road Turning Head (east side) with asymmetrical turning head overlaid

5.9.8. It is recommended that the Requiring Authority examine the option to design the turning head asymmetrically so it extends to the south of Manuroa Road and remove or at least reduce the proposed designation boundary from the submitters site.

5.9.9. NoR 1 Submitter 11 has raised concerns about the removal of on-site parking from the Oceania Healthcare site at 9-13 Taka Street. Significant changes to parking and landscaping would be required for access via the proposed access lane via 166-168 Great South Road, and to provide means for vehicles to turn around on-site.

5.9.10. The existing site has two vehicle crossings which operate as an entry and exit. This provide an efficient operation of the site. The project proposes a single access which would need to be two way. The issue of access is discussed separately in paragraphs 5.10.9 to 5.10.14. Due to the constrained nature of the site this results in the removal of car parks for both the new site access and to enable vehicles to turn around on-site, including emergency vehicles. Parking is used by both visitors and staff who operate on shifts.

5.9.11. Whilst there may be on-street parking available on Takanini Road, this may not be practical for some visitors or for emergency access. Furthermore, this may present safety issues for staff working on shift outside of normal operating hours.

5.9.12. It is recommended that either in evidence or at the hearing that the Requiring Authority provide details of how car parking can be arranged to avoid /minimise loss of parking with the proposed site access.

5.9.13. NoR 1 Submitter 15 is concerned about the potential loss of parking on the site at 37-39 Oakleigh Avenue. The ATE states that 7 car parks would be removed.

5.9.14. It appears from examination of the NoR concept drawings that the car parks referenced are at the corner of Oakleigh Avenue and Hitchcock Road. This site is under development and this information may no longer be correct as a building has been constructed on that corner.

5.9.15. It is recommended that the Requiring Authority either in evidence or at the hearing provide further details of the effects of the proposed works on the property located at 37-39 Oakleigh Avenue.

5.9.16. NoR 1 Submitter 29 (1 and 15 Spartan Road) states that the NoR will result in the loss of 18 car parks and 30 truck parks which would impact on the ability to operate the business.

5.9.17. The loss of car parking and truck parking areas could be a significant impact on the operation of the submitter's business.

5.9.18. It is recommended that the Requiring Authority work with the submitter to identify measures to mitigate the effects and / or adjust the design and designation to address the adverse effects. Details should be provided either at the hearing or in evidence.

5.9.19. NoR 2 Submitter 17 is concerned about the loss of parking within their site, Takanini Town Centre.

5.9.20. It is assumed that the parking referred to in the submission are the car parks along the Walters Road boundary. The submitter states that the lease with The Warehouse requires the submitter to provide a certain number of car parks; however, the submission does not state whether the removal of these car parks would result in the terms of that lease being infringed.

5.9.21. From reviewing the concept design it is considered that the designation could be set back to reinstate the car parking post construction. This may be subject to the provision of a vehicle access from Walters Road.

5.9.22. It is recommended that the Requiring Authority confirm that it is the intention that the car parks will be reinstated on completion of the project.

5.9.23. NoR 2 Submitter 19 is concerned about the loss of car parking both during the operation and construction of the works at 12 Walters Road (Carters Building Supplies).

5.9.24. The NoR will affect the car parking and yards that front onto Walters Road. This will reduce the manoeuvring areas within the sites and potentially how large vehicles will be able to access and exit buildings on the sites and park whilst loading and unloading. Whilst the design is concept and further detail will be developed during detailed design, it is not clear how the submitter's business will be able to operate with the loss of both car parking and manoeuvring areas.

5.9.25. It is recommended that the Requiring Authority either in evidence or at the hearing demonstrate how the submitter would be able to continue using the site during construction and operation.

5.9.26. NoR 2 Submitter 20 is concerned about the loss of parking in the Southgate Shopping Centre.

5.9.27. The NoR will affect parking along the Walters Road frontage. It is not clear whether this car parking is required permanently or temporarily for construction. It would appear that it is only required temporarily for construction purposes as the final works are within the existing road reserve boundary. Therefore, the NoR boundary could be returned upon project completion.

5.9.28. It is considered that the loss of parking within Southgate Shopping Centre would be temporary for construction. This may not need to be removed for the entire duration of

the construction, but only the construction of the works along this section of Walters Road. Therefore, the effect is only temporary and is considered to be acceptable in this instance. Notwithstanding, it is considered that to address the submitter's concerns, that the number and duration that car parks within the Southgate Town Centre will be removed should be minimized to the extent possible for construction activities.

5.10. *Property Access – Operation*

5.10.1. NoR 1 Submitter 4 and NoR 2 Submitter 3 has concerns over the general effects on property access with the project.

5.10.2. Access to property is addressed via NoR Condition 14 Existing Property Access. This requires consultation with land owners affected. It is considered that this condition would address the concern.

5.10.3. Notwithstanding, it is considered that the condition should also refer to occupiers, as the changes may affect tenants or businesses who do not own the land.

5.10.4. NoR 1 Submitter 7 is concerned about vehicle access being more difficult to their site (Best Start childcare centre at 18 Manuroa Road) due to location at the end of a cul-de-sac. The submitter considers that the closure of Manuroa Road could add 30 minutes to a commute due to additional travel distance and congestion.

5.10.5. The proposals will require traffic from the western side of the railway tracks to divert via Manuia Road to travel to the site. The ATE in Section 7.3.3 states that the additional travel distance is approximately 200m between the Manuroa Road / Oakleigh Avenue intersection and Great South Road or approximately 1 minute travel time.

5.10.6. It is concurred that the closure will result in a less direct route for motorists travelling to/from Great South Road. For motorists travelling to/from the south on Great South Road the additional travel distance would be greater. Reviewing the additional distance, it is estimated that there would be an additional travel distance of 680m when travelling to/from the south and 300m when travelling to/from the north. Assuming an average travel speed of 25km/h, this equates to about 1.5 minutes additional travel time when travelling from the south or less than 1 minute from travelling to/from the north.

5.10.7. Without the project, motorists would experience increasing delays due to the operation of the level crossings as the frequency of train services increase. Therefore, whilst there would be additional travel time involved with the project, this is likely to be offset by the delays or effects on journey time reliability experienced with the operation of the level crossings.

5.10.8. On this basis, I do not consider that the closure of the Manuroa Road level crossing would result in significant effects on accessibility to the site.

5.10.9. NoR 1 Submitter 11 (9-13 Taka Street) is concerned about the feasibility of providing an alternative property access and the effects on the operation of the site. The proposed concept design on the notified version of the NoR shows a two-way access from Taka Street via 166-168 Great South Road; this conflicts with the building along the western side of the submitter's site and would require building alterations. Further concerns are raised as to how vehicles who may errantly use the access will turn around without entering the submitter's site.

5.10.10. I note that the Requiring Authority has proposed an amended arrangement on the adjacent site (166-168 Great South Road) and this indicates that the proposed access

lane would be aligned so that it would connect to the submitters site north of the building. Due to the scale of the drawing and clarity of the drawing provided, it is not clear how much clearance there would be to the building itself. This is a concern.

5.10.11. Furthermore, there is a lack of clarity on how the proposed vehicle access lane is intended to operate at its western end within 166-168 Great South Road (Z petrol station). The lane appears to terminate without any connection to Taka Street or indication of priorities between traffic using the access and traffic entering and exiting the petrol station.

5.10.12. I consider that insufficient detail has been provided that demonstrates how the proposed access to 7 and 9-13 Taka Street would feasibly be formed and how it would operate in either a safe or an efficient manner.

5.10.13. Issues of property access in relation to 166-168 Great South Road are discussed in paragraphs 5.10.36 to 5.10.42.

5.10.14. It is recommended that either in evidence or at the hearing that the Requiring Authority provide details of how access to 9-13 Taka Street will be achieved and how vehicles would be able to turn around on-site. The arrangement should include details of how the access lane would connect to Taka Street in a safe manner and enable the Z petrol station to continue to operate.

5.10.15. NoR 1 Submitter 12 is concerned that their property (33 Oakleigh Avenue) would be land locked once the project is completed.

5.10.16. Once the Oakleigh Avenue / Hitchcock Road roundabout is complete the submitter's property would continue to be accessed via Hitchcock Road. During construction, the NoR CTMP condition 18(a)(vi) ensures there are methods to maintain property access or provide alternative access arrangements.

5.10.17. NoR 1 Submitter 15 requests that current truck access to their property (37-39 Oakleigh Avenue) is maintained.

5.10.18. Truck access to the site is via vehicle crossings towards the southern end of the site on Oakleigh Avenue which would be affected by construction of the roundabout and associated cycle and pedestrian facilities.

5.10.19. The Existing Property Access condition would ensure that the access is appropriately reinstated once construction is complete. I consider that the proposed condition is sufficient to address the concern.

5.10.20. NoR 1 Submitter 20 and Submitter 46 are concerned over the effects on their site access at 16 Spartan Road and 20 Spartan Road, respectively, during the operation of the project.

5.10.21. The Existing Property Access condition requires the Requiring Authority to liaise with the landowner on providing property access with the project. This condition is considered to be sufficient to address the concern. However, the condition is currently limited to liaison only with landowners, and it should be expanded to include occupiers of the land (e.g. tenants, as in the case of NZ Steel).

5.10.22. It is recommended that NoR Condition 14 Existing Property Access be amended to include reference to occupiers as well as landowners.

5.10.23. NoR 1 Submitter 27 is concerned that the reconfigured site access for 22 Oakleigh Avenue would be dangerous.

5.10.24. The NoR design is a concept design. Further design development is required to confirm the actual layout of the proposed road and access arrangements. NoR Condition 14 Existing Property Access requires the Requiring Authority to liaise with landowners to demonstrate how safe access will be provided. I consider this to be sufficient to address the submitter's concern.

5.10.25. NoR 1 Submitter 29 is concerned about the provision of a safe access to their site at 1 and 15 Spartan Road as access is not shown on the NoR concept plans and their current site access is just 10m from the start of the proposed pedestrian / cycle bridge.

5.10.26. The design is concept and not all vehicle crossings are shown on the plans. Condition 14 Existing Property Access condition will require the Requiring Authority to liaise with landowners (and occupiers) to demonstrate how safe vehicle access will be provided. This is considered sufficient to address the submitter's concerns.

5.10.27. NoR 1 Submitter 30 is concerned about the loss of access to their property at 106 Great South Road from Manuia Road. The site is currently being redeveloped and the submitter intentionally designed the site access arrangements to avoid providing a vehicle crossing from Great South Road.

5.10.28. The NoR drawings are concept designs and do not show all new vehicle crossings. Condition 14 Existing Property Access would ensure that the Requiring Authority would need to demonstrate how safe access to the site would be achieved. There appears to be sufficient scope to provide an access to Manuia Road to connect to the site in approximately the same location as the existing Manuia Road access.

5.10.29. It is concurred that access from Great South Road would be undesirable due to effects on pedestrians and traffic, and that an access from Manuia Road is most appropriate.

5.10.30. NoR 2 Submitters 3 and 17 are concerned about the impact on access to Takanini Town Centre with the project in place. The key concerns appear to be the loss of a vehicle access (entry only) to the Town Centre from Walters Road and the effects on the access to the underground car park under the building located in the south eastern corner of the site by the Walters Road / Arion Road intersection.

5.10.31. It is concurred with the submitters that the access to Takanini Town Centre from Walters Road will be affected. Traffic from the west would be rerouted to Arion Road. Traffic modelling presented in the ATE demonstrates that the Walters Road / Arion Road intersection would continue to operate satisfactorily with traffic diverted from the Walters Road access onto Arion Road.

5.10.32. NoR 2 Submitter 17 has raised concerns about access to the underground car park which has its entrance near the existing Walters Road entry to the town centre at grade car park. This car park has a gated entry and therefore it appears that there are restrictions on who can use the car park i.e. it is not for general shopper use. Due to the limitations on the users of the underground car park, this can be managed by the operators of the car park / building. Motorists would still be able to reach this underground car par via the Arion Road accesses. This is considered to be a small diversion for traffic entering from Walters Road and not a significant effect.

5.10.33. As I have noted above, there is an existing resource consent condition that requires the Walters Road access to be closed with the provision of a bridge over the railway line. Therefore, I consider that the closure of the vehicle access was anticipated. Given this condition and that diverted traffic is able to be accommodated via the Arion Road intersection, I consider the effect of the closure of the Walters Road access to traffic to not result in significant effects. Notwithstanding, the condition does not necessarily preclude the provision of a new access from Walters Road, if it is feasible to do so with the proposed bridge.

5.10.34. NoR 2 Submitter 17 has raised concerns as to the effect of limiting pedestrian / cycle access from Walters Road with the project.

5.10.35. It is not clear whether a pedestrian access from Walters Road into the car park could be reinstated with the Project. It is recommended that either in evidence or at the hearing the Requiring Authority should demonstrate whether a pedestrian access is feasible.

5.10.36. NoR 1 Submitter 42 is concerned that the proposed design of access to 7 and 9-13 Taka Street creates an informal intersection where numerous vehicles will be entering and existing their site at 166-168 Great South Road. They are concerned it will create queuing and major issues which could impede tankers and limit access to the adjacent sites.

5.10.37. The notified version of the NoR showed the access way connecting to 7 and 9-13 Taka Street as a formed access lane (refer to paragraphs 5.10.9 to 5.10.14 for discussion on the submission on property access for 9-13 Taka Street). Whilst not shown on the concept plans, it is assumed that a vehicle crossing would have been formed into the Z Petrol Station.

5.10.38. The proposed revised NoR designation concept layout shows the connection to 7 and 9-13 Taka Street as an informal access which simply terminates within the forecourt area of the Z site (albeit within the proposed designated area). It is considered that the arrangement will result in an ambiguous situation over priorities between motorists of the Z station and the adjacent sites of 7 and 9 Taka Street. This is likely to create operational issues and conflicts within the site. Furthermore, legibility of access to 7 and 9-13 Taka Street would be poor.

5.10.39. It is acknowledged that currently there is an access lane to the Burger King drive-thru that runs parallel to Taka Street east of the Taka Street vehicle crossing. However, this is one-way eastbound / southbound and therefore there are no conflicts associated with vehicles using this lane and those using the vehicle crossing or with activity within the petrol station forecourt (including fuel deliveries).

5.10.40. The location of the refuelling site would be compromised by the proposed access arrangement. This is because of the location of where tankers would need to park to access the tanks. This would further complicate the operation of the site access.

5.10.41. It is not clear how the access is intended to operate.

5.10.42. It is recommended that the Requiring Authority either in evidence or at the hearing clearly demonstrate how the access to 7 and 9-13 Taka Street would operate safely and efficiently and enable the Z Petrol Station to continue to operate safely. Alternatively, the Requiring Authority should consider alternative measures to providing access to 7 and 9-13 Taka Street.

5.10.43. NoR 2 Submitters 19 and 20 (12 Walters Road and 230 Great South Road respectively) is concerned about the impact on access to their sites for large truck and trailers from Walters Road.

5.10.44. The concept design indicates that the exit from the access lanes will operate as left turn out only.

5.10.45. The issue of vehicle tracking for the access lanes was raised with the Requiring Authority. It is understood from the response that the access lanes have been designed for truck movements, although vehicle tracking has not been provided.

5.10.46. It is recommended that either in evidence or at the hearing that the Requiring Authority provide plans of vehicle tracking that demonstrate that trucks (including semi-trailers and B-trains) are able to enter and exit the access lanes, and / or provide details as to how practical and safe access for heavy vehicles will be retained with the proposed layouts.

5.11. *Requested Changes to the Proposals – Operation*

5.11.1. NoR 1 Submitters 10 and 22 consider that the project has not future proofed Oakleigh Avenue roundabout to connect to the Mill Road project. NoR 1 Submitters 14 and 19 request that the Mill Road project be implemented.

5.11.2. The goals of the project are focused on improving safety and local accessibility. The NoR does not preclude future studies or mechanisms to connect to the Mill Road project. It is noted that the Manuia Road bridge will enhance accessibility to the strategic road network when compared to the Spartan Road intersection with Great South Road.

5.11.3. The Mill Road project is outside the scope of this NoR.

5.11.4. NoR 1 Submitter 15 requests amendments to the proposed Oakleigh Avenue / Manuia Road roundabout to provide two approach lanes on Manuia Road.

5.11.5. The ATE has modelled the roundabout with a single lane approach and this has been shown to have sufficient capacity. It is also noted that the current design is a concept and further design and modelling will be required during the detailed design phase of the project and there will be scope to amend the design if additional lanes are needed at that stage. The designation boundary is sufficiently wide at this location to accommodate changes such as that requested, if necessary.

5.11.6. NoR 1 Submitter 15 requests that the Spartan Road / Oakleigh Road intersection is amended to provide a free right turn to Spartan Road once Spartan Road is closed.

5.11.7. The closure of Spartan Road crossing will change the travel patterns at the Spartan Road / Oakleigh Avenue intersection. This may require the priorities to be amended or a change to the layout or operation of the intersection. This is discussed in paragraph 4.5.9 above.

5.11.8. I recommend that either in evidence or at the hearing that an assessment should be provided of the safe and efficient operation of the intersection. If this is not provided, I consider that the NoR conditions should require the project to consider the safe and efficient operation of the intersection.

5.11.9. NoR 1 Submitter 32 has requested that Manuroa Road be widened rather than construct a new bridge at Manuia Road.

5.11.10. The Assessment of Alternatives considered a range of options and the ATE also identifies that diverting freight from the Takanini Industrial area along Manuroa Road

would impact on residential areas. It would increase the overall distances that freight would need to travel to and from the motorway compared to the Manuia Road bridge which would be located closer to the motorway interchange. As indicated, there are a variety of transport related reasons why a new bridge at Manuia Road is preferable to a an upgraded Manuroa Road.

5.11.11. NoR 1 Submitter 45 has requests traffic lights at the intersection of Oakleigh Avenue / Manuroa Road to assist vehicles exiting Oakleigh Avenue.

5.11.12. The pattern of traffic flows at the Oakleigh Avenue / Manuroa Road will change with the Project with the predominant movements occurring between Oakleigh Avenue and the eastern leg of Manuroa Road. This is because to the west of Manuroa Road the road will only access properties east of the railway line as this will be terminated as a cul-de-sac.

5.11.13. An amendment to the intersection layout would be appropriate due to the change in priorities, but traffic signals may not be justified due to the low traffic volumes on Manuroa Road west of the intersection. An appropriate intersection form would need further investigation.

5.11.14. I recommend that either in evidence or at the hearing that an assessment should be provided of the safe and efficient operation of the intersection. If this is not provided, I consider that the NoR conditions should require the project to consider the safe and efficient operation of the intersection.

5.12. *Safety – Operation*

5.12.1. NoR 1 Submitters 10, 21 and 22 have raised concerns over the safety of cyclists and pedestrians and Spartan Road due to the provision of the active modes bridge.

5.12.2. The project will close Spartan Road to through traffic and therefore the number of heavy vehicles will be significantly reduced which will enhance safety for cyclists.

5.12.3. ATE Section 7.1.3.3 assesses the effects of not providing a pedestrian/cycle connection across the railway line on Spartan Road; this results in a significant diversion and increase in travel times particularly for pedestrians. This will impact on accessibility for active modes and could result in safety issues if these users attempt to cross the railway line. It is considered appropriate to provide for active modes to cross the railway line at Spartan Road. The design would need to consider how pedestrians and cyclists would transition safely from the bridge to the surrounding road network. No specific conditions are considered to be required in this regard.

5.12.4. NoR 1 Submitters 13 and 14 have raised concerns over increased safety risks to children with increased traffic passing schools and childcare centres.

5.12.5. The ATE provides details of changes in daily traffic volumes along key roads within Takanini in Figure 37. The change in flows along the southern end of Oakleigh Avenue are shown to reduce with the project, as are flows along Takanini School Road south of Manuroa Road. Traffic will significantly reduce on Manuroa Road west of Oakleigh Avenue where there is at least one childcare centre. The number of heavy vehicles on these sections of road are also likely to reduce as heavy vehicles will be able to use the Manuia Road bridge. It is therefore, considered, that the project should not result in additional safety risks at these locations.

5.12.6. NoR 1 Submitters 37, 38, 39 and 40 have raised concerns that the pedestrian bridges at Spartan and Manuroa Roads are unsafe and not suitable for all people to utilise.

5.12.7. It is understood that the concept design for the active mode bridges has been undertaken for the bridges to be accessible, this includes ramps at appropriate gradients. The current designs require a large footprint to accommodate the ramps. Further design development will be undertaken at a later date and the designs may change, and this could include the form of the facility. For instance, a facility could include steps and/or lift which may reduce the area of land required. The facility could also be amended to a pedestrian / cycle underpass which could be designed to be more direct as ramp lengths can be reduced as the height difference required for the clearance to the railway line is less for a pedestrian underpass compared to a bridge over the railway line.

5.12.8. Whilst road bridges and underpasses have been considered in the Assessment of Alternatives, the option for a pedestrian/cycle underpass does not appear to have been considered.

5.12.9. I note that careful design would be required for underpasses to avoid personal safety issues.

5.12.10. It is recommended that either in evidence or at the hearing that the Requiring Authority provide an assessment of pedestrian / cycle underpasses for the Spartan Road and Manuroa Road railway crossings, including a demonstration of any changes to the designation boundaries that may reduce the land required.

5.12.11. NoR 2 Submitters 19 and 20 have raised concerns on adverse safety effects on the operation of Walters Road for properties with access from Walters Road.

5.12.12. The project should be designed to the latest safety standards and would be subject to road safety audits. Concentrating movements at one location with access lanes as shown on the concept drawings will reduce the number of conflict points along Walters Road. Furthermore, the operation of the access lanes west of the railway line will reduce right turn movements. Overall, it is considered that the safety of Walters Road is likely to be improved with the concept layout.

5.13. *Effects on the Operation of Sites – Operation*

5.13.1. NoR 1 Submitter 17 (72-86 Great South Road) is concerned that the designation affects operation of vehicle movements within their site.

5.13.2. The proposed designation does not affect the property other than along the site frontage of Great South Road where the designation is required for the construction of footpaths/ cycle paths.

5.13.3. The proposed designation boundary is likely only required for construction of the works and is likely to be removed to coincide with the back of the new footpath once construction is completed. There are NoR conditions in this regard.

5.13.4. The CTMP condition 18(a)(vi) would ensure that access is maintained during construction.

5.13.5. NoR 1 Submitter 20 (16 Spartan Road) has raised concern over the extent of designation along the site frontage with Spartan Road impacting on restricting vehicle movements within the site.

5.13.6. The ULDMP condition 12(d) requires input from key stakeholders in the development of the design. Condition 4 Designation Review requires the extent of the designation to be reviewed and removed where this is no longer required after the construction of the project. These conditions should address the concern about effects of the project post construction on the operation of the project.

5.13.7. The CTMP condition 18(a)(vi) would ensure that access is maintained during construction, and this may include temporary amendments to the layout of the vehicle crossing.

5.13.8. NoR 1 Submitter 23 (102 Great South Road, BP petrol station) is concerned about the ability to redevelop the site post construction of the project due to the smaller nature of the site.

5.13.9. The NoR requires a significant proportion of the submitter's land to create a new bridge. The balance of the land is reduced and this could compromise the ability to provide all the necessary turning movements for a petrol station within the site. The proposed signalised intersection between Manuia Road / Great South Road could adversely affect the operation of vehicle crossings onto Great South Road, particularly for any vehicles turning right into or out of the site; these movements may need to be restricted to left in and left out only. Whilst this restriction may currently occur for the Great South Road vehicle crossings, a vehicle crossing exists on Manuia Road which enables vehicles to then turn any direction onto Great South Road.

5.13.10. The submitter has requested that access be provided across the active mode facilities onto Manuia Road. It is noted that with the batters shown on the concept design, the road slopes upwards away from Great South Road, this may limit the practicality of providing a feasible vehicle connection from the site. Notwithstanding, it is generally considered desirable to either avoid or limit the number of vehicle crossings across cycle facilities for safety reasons.

5.13.11. It is acknowledged that the use of retaining walls rather than batters on the northern side of Manuia Road could maximise the balance of land left after the construction of the project.

5.13.12. It is recommended that the Requiring Authority either in evidence or at the hearing provide details of how access could be provided to the site at 102 Great South Road and how an alternative layout to provide a petrol filling station could be achieved, including replacing the proposed batter slopes with retaining structures.

5.13.13. NoR 1 Submitter 29 (1 and 15 Spartan Road) is concerned that the closure of the Spartan Road level crossing will create severance for their business operations as the business has sites at 1-15 Spartan Road west of the railway line and at 58 ad 81 Spartan Road on the eastern side.

5.13.14. From the submission, it is understood that the submitter also has sites at 58 and 81 Spartan Road. The closure of the level crossing would result in increased travel times and distances for truck movements travelling between the sites either side of the railway line. The submitter does not state the volume or frequency of movements between the sites and therefore it is not possible to comment on the potential effects on these movements. However, it is concurred the closure of Spartan Road level crossing would impact on the efficient movement of vehicles between the sites.

5.13.15. NoR 2 Submitter 18 (1-3 Walters Road) has raised concern that the project will not leave sufficient space for manoeuvring within the site.

5.13.16. The project appears to require the demolition of the building on the site to provide for the access lane from Walters Road. Therefore it is likely that the whole site would be acquired. If it is not all acquired, the remaining area will need to be reconfigured for new buildings, and for manoeuvring areas. I consider that the effects on the future operation of the submitter's land post construction have not been sufficiently assessed.

5.13.17. It is recommended that the Requiring Authority either in evidence or at the hearing demonstrate how the project will mitigate the effects on the submitter's property.

5.13.18. NoR 2 Submitters 1 and 5 (12 Walters Road) consider that the NoR will render the property not fit purpose.

5.13.19. The NoR will affect the car parking and yards that front onto Walters Road. This will reduce the manoeuvring areas within the sites and potentially how large vehicles will be able to access and exit buildings on the sites. Whilst the design is concept and further detail will be developed during detailed design, it is not clear how the submitter's business will be able to operate with the loss of both car parking and manoeuvring areas.

5.13.20. It is recommended that the Requiring Authority either in evidence or at the hearing demonstrate how the submitter would be able to continue using the site at 12 Walters Road during construction and operation.

5.13.21. NoR 2 Submitter 20 is concerned that the acquisition of the property at 20A will impact on the useability of the land for bulk warehousing and the use of the site by B-trains.

5.13.22. Examination of the proposed NoR boundary indicates that 20A Walters Road is not affected by the designation boundary. However, it is not clear if the building also extends into the adjacent site at 20 Walters Road. It is noted that the building on 20A appears to be contiguous with the building on 20 Walters Road. Therefore, demolition of buildings at 20 Walters Road could affect the building on 20A Walters Road.

5.13.23. It is understood that deliveries to Mitre10 enter the site via Great South Road and circulate around the site and exit onto Walters Road. It is not clear if the trucks associated with the bulk warehousing at 20A Walters Road utilise the same route or enter the site via Walters Road.

5.13.24. From a transport perspective, provided that the movement of heavy vehicles (including B-trains) are able to be retained for both the construction and operational phases of the project, it is considered, that the project would not have a significant impact on the submitter's operations.

5.13.25. It is recommended that the Requiring Authority either in evidence or at the hearing demonstrate that the design will enable the movement of heavy vehicles, including B-trains, to and from Walters Road and the submitters land at 20A Walters Road.

5.13.26. NoR 1 Submitter 42 considers that the effects on the property at 166-168 Great South Road (Z petrol station) have not been assessed.

5.13.27. The Project proposes to include part of the site within the NoR boundary along the Taka Street frontage to provide alternative access arrangements to 7 and 9-13 Taka Street and for widening to provide for the proposed bridge structure and walking and cycling facilities along Taka Street. The Requiring Authority has proposed an amendment to the

designation boundary that would reduce the land required on the submitter's site compared to the notified boundary.

5.13.28. In addition to the TLC NoR, the South Frequent Transit Network (**FTN**) NoR 1 includes minor adjustments to the Great South Road frontage to the site.

5.13.29. The TLC NoR documentation and plans do not make any reference to how the South FTN NoR affects the property or cumulative effects. Whilst the predominant effect is from the TLC as the proposed designation will affect operations within the site and location of infrastructure associated with the site operation, in totality there will be cumulative effects due to both TLC and South FTN NoRs.

5.13.30. In relation to the TLC NoR, the NoR boundary is proposed to provide access to 7 and 9 Taka Street. This access is proposed to mitigate the traffic effects on 7 to 9 Taka Street but has consequential effects on the submitter's site. Therefore, strictly the adjusted NoR boundary and the taking of land is not required to meet a specific project objective, but to mitigate the effects of the Project on adjacent land. It is noted that without an access to the adjacent site via the submitter's land, the Project would completely sever access to 7 Taka Street as level differences with the proposed bridge over the railway line would prevent feasible access. Vehicle access to 9-13 Taka Street would be significantly compromised.

5.13.31. It is concurred with the submitter that the land proposed to be designated is not all required to meet the Project's objectives as some is required to mitigate effects on adjacent properties.

5.13.32. There is a lack of clarity on the concept layout provided with the revised NoR designation as to how the proposed access lane to 7 and 9-13 Taka Street would operate safely and efficiently. The proposed access lane does not directly connect to Taka Street and would provide an area where traffic priorities are ambiguous. Furthermore, it is not clear whether the area where the access lane terminates in the submitters site would be retained as formal road reserve or whether the designation boundary would be drawn back. It is considered that the arrangement as shown on the concept plans would result in safety issues. As highlighted by the submitter, the arrangement will adversely affect site operations including the safe positioning of the fuel tanker for fuel deliveries and the operation of the car wash in the northwestern corner of the site.

5.13.33. The proposed boundary would adversely affect the location of key infrastructure for the site which would need to be relocated to allow for works along Taka Street.

5.13.34. It does not appear that the Requiring Authority has undertaken any assessment as to how the site may be laid out or operated with the proposed designation boundary. I concur with the submitter's concerns that the proposed designation could significantly compromise the safe operation of the site and the ability for the submitter to continue to operate the business without significant changes to the layout or relocating infrastructure on the site. This would be further exacerbated, once works associated with the South FTN NoR 1 are taken into account.

5.13.35. I consider that further assessment and evidence is required from the Requiring Authority around the suitability of the proposed access lane arrangement to 7 and 9-13 Taka Street, the effects on the operation of the site at 166-168 Great South Road and the feasibility of amending the site layout to provide a feasible layout arrangement (including relocation of critical infrastructure for the operation of the site).

5.14. *Pedestrians / Cyclists – Operation*

5.14.1. A number of submitters[17] have raised concerns that the pedestrian/cycle bridges may not be suitable for people with mobility issues.

5.14.2. The concept design for the Spartan Road and Manuroa Road bridges show long ramps. These ramps are provided so that the bridges are accessible for cyclists and those with mobility scooters, wheelchairs, and push chairs.

5.14.3. It is noted that the ULDMP condition 12 (f)(iii) requires the project to "*promote inclusive access (where appropriate)*". It is considered that these bridges would need to be accessible due to the long alternative diversion routes.

5.14.4. NoR 1 Submitter 43 and NoR 2 Submitter 23 has requested that the Requiring Authority with KiwiRail investigate more direct, well-designed, and safe walking and cycling opportunities in and around Takanini Station that maximise pedestrian and cycle levels of service, particularly at Manuroa Road and Taka Street.

5.14.5. The Project objectives include objectives for improving safety. Best practice is for the separation of conflicts between pedestrians/cyclists and trains; this necessitates the closure of the rail crossings. Other than the existing road crossings there are some pedestrian only crossings. It is understood that consideration is being given to the closure of these. However, this is outside the scope of the NoR.

5.14.6. The project will need to consider the connectivity with the Takanini Station. It is considered that the proposed conditions are sufficient to address this concern.

5.14.7. NoR 2 Submitter 8 (1 and 5 Tironui Road and 254 Great South Road) has requested that pedestrian access is maintained to their property during both the construction and operational stages of the project.

5.14.8. In terms of construction, it is considered that the detail of construction would be determined at a later date once the design is confirmed and a construction methodology is identified. The CTMP condition is considered sufficient in this regard.

5.14.9. For the operation of the site, the ULDMP condition 12 (f)(i) and (ii) both required that the design integrates with the existing and future urban context, with (ii) specifically referring to walking and cycling. The ULDMP condition is considered sufficient in this regard.

5.15. *Design Detail – Operation*

5.15.1. NoR 1 Submitter 22 considers that there is lack of detail in the current NoR design.

5.15.2. The NoR is based on a concept design. The design will be subject to design development in the future which will include more detailed information. This is considered necessary as the NoR is required for route protection rather than imminent construction. This would allow for changes over time such as design standards that may affect the design.

5.15.3. NoR 1 Submitter 28 considers that all future bridges should be multi-modal.

5.15.4. All road bridges include multi-modal facilities including separated cycle facilities. Manuia Road bridge is to be specifically designed for heavy vehicles as this will provide access to the Takanini Industrial area and will form part of the over dimension route. The bridges

[17] NoR 1 Submissions 25 and 43, and NoR 2 Submission 23

at Spartan Road and Manuroa Road are to be designed for active modes, catering for both pedestrians and cyclists.

5.15.5. NoR 2 Submitter 4 raises a concern that there is a risk of the overpass being longer than planned and impacting on the Arion Road intersection.

5.15.6. The submitter's concern is noted. However, the design will need to be undertaken so that the overpass ties back into existing levels at the Arion Road intersection as this is a key road that provides access to / from Takanini Town Centre. This is specific constraint on the design of the overpass.

5.15.7. NoR 2 Submitters 10 and 11 (164-166 Porchester Road) raise concerns on the certainty in the design between NoR 2 and the proposed South FTN NoR 4 in relation to Walters Road.

5.15.8. TLC NoR 2 terminates west of the Porchester Road / Walters Road roundabout and retains the roundabout, whereas South FTN NoR 4 converts this intersection to a traffic signal controlled intersection. In addition, NoR 2 shows a pedestrian crossing (assumed to be a signal controlled crossing) on Walters Road a short distance away from the Walters Road / Porchester Road roundabout; this is not included in the South FTN NoR, presumably because pedestrians will be provided with signal controlled crossings across Walters Road at the proposed Porchester Road traffic signal controlled intersection.

5.15.9. Examination of the plans for NoR 2 and South FTN NoR 4 indicate similar cross sections on Walters Road. In this regard the NoRs are consistent.

5.15.10. The upgrade to the roundabout will occur as part of NoR 4 and therefore does not need to be considered as part of NoR 2.

5.15.11. The overlap between the NoRs is required to allow for potential differences in the timing of projects. It is further noted that the designs included with the notified material are conceptual and are subject to change within the proposed designation boundaries.

5.15.12. I consider that NoR 2 will need to take into account the design for Walters Road and for the Porchester Road intersection at the time of implementation. This is addressed by ULDMP condition 12(f)(i).

5.15.13. NoR 2 Submitters 10 and 11 (164-166 Porchester Road) have raised concern over the effect on landscaping and frontage to 166 Portchester Road as the designation extends into the property frontage.

5.15.14. Examination of the NoR plans indicates that the proposed works are generally within the existing road reserve and do not encroach into the site itself. The designation is likely to have been extended into the property to allow for construction. Notwithstanding the resource consent plans indicate that there is a 2.08m wide landscaped area along the Walters Road frontage. Should construction be required in this area, it would be the Requiring Authority's responsibility to reinstate this area.

5.15.15. It is recommended that the Requiring Authority either in evidence or at the hearing confirm whether the proposed works can be constructed from within the road reserve rather than requiring land within the property.

5.16. *Conditions*

5.16.1. NoR 1 Submitter 33 and NoR 2 Submitter 12 (KiwiRail) seeks early engagement on numerous issues to ensure appropriate design outcomes and access to rail network for operation and maintenance is achieved.

5.16.2. The proposed NoR conditions are generally considered to be sufficient to ensure engagement with KiwiRail occurs. KiwiRails provides specific comments on the connections to the Takanini Station from Manuroa Road and Taka Street and on ensuring the footbridge at Spartan Road takes into account the potential for additional track capacity on the eastern side of the tracks.

5.16.3. It is considered that the ULDMP condition should be amended to include specific requirements for future proofing the NoR designs for future railway track capacity and providing connections to the station for pedestrians and cyclists.

Construction Traffic Effects

5.17. *Construction Staging*

5.17.1. Various submitters[18] are concerned about the timing of the closure of bridges and the potential effects on the connectivity across the NIMT during construction. NoR 1 Submitter 15 requests that Spartan Road is kept open during construction until alternative bridges have been constructed.

5.17.2. The ATE Sections 5.2 and 5.3 discuss the effects of construction sequencing of the various bridges and closures of level crossings. This shows that the alternative Manuia Road crossing will be required to facilitate the closure of Spartan Road without creating adverse effects elsewhere.

5.17.3. It is recommended that the NoR conditions ensure that alternative road crossings are available prior to the closure of Spartan Road.

5.17.4. NoR 1 Submitter 4 and NoR 2 Submitter 3 is concerned on the effects of construction on freight movements.

5.17.5. The ATE clearly identifies that there needs to be a minimum of three routes open in the Takanini network during the construction of the works to provide for alternative routes. This requirement should be included in the NoR conditions as this is required to avoid, remedy, or mitigate the effects of construction.

5.17.6. It is concurred with the submitter that the Takanini Business Association should be involved in the development of the CTMP as a key stakeholder. The involvement of stakeholders in the preparation of management plans is required by NoR Condition 8 (iv) although is limited to incorporating comments and the specific CTMP condition does not require input from stakeholders. It is recommended that the CTMP condition should require input from key stakeholders and comments incorporated in accordance with the Management Plans Condition 8 (iv).

5.17.7. NoR 2 Submitters 17, 18, 19 and 20 have raised concerns that there has been inadequate assessment of the construction effects on traffic, pedestrians, and cyclists, and on parking in the vicinity of Takanini Town Centre.

[18] NoR 1 Submissions 15, 26, 28, 29, 31

5.17.8. The ATE assesses the effects on the movement of traffic, pedestrians, and cyclists during construction at the network level. This includes consideration of alternative routes and potential impact on travel distance and journey times. The ATE identifies that it is necessary to provide alternative crossings prior to the closing of any of Spartan Road, Manuroa Road or Taka Street.

5.17.9. Detailed examination of how traffic, pedestrians and cyclists would be accommodated in the vicinity of each bridge would be best left to a time when more detail is known about the final design and the construction methodology.

5.17.10. With respect to the effects on traffic during the construction of Walters Road bridge, an assessment of the re-routeing of traffic if Walters Road is closed is included in ATE Section 5.4. The ATE concludes that Walters Road should be constructed off-line to retain both traffic and pedestrian movements. If a connection at Walters Road is not maintained this would result in significant diversion routes for pedestrians and cyclists and would result in a significant volume of traffic routeing through residential streets to reach the town centre.

5.17.11. The submitter has raised concerns about loss of parking with the town centre during construction. It is assumed that this is in reference to car parks along the Walters Road boundary. The submitter states that the lease with The Warehouse states that the submitter is required to provide a certain number of car parks; however, the submission does not state whether the removal of these car parks would result in the terms of that lease being infringed. From reviewing the concept design it is considered that the designation could be set back to reinstate the car parking post construction. The car parking may not need to be removed for the entire duration of the construction of the Walters Road bridge, only for operations in the vicinity of those car parks. Therefore, this is likely to minimise the effects on car parking within the site and therefore the effect is unlikely to be significant.

5.17.12. The CTMP condition generally covers general matters in relation to construction traffic effects. Notwithstanding, it is considered that to address submitter concerns, that reference in the NoR conditions should be made as to how access would be managed for major facilities such as Takanini Town Centre, and that the number and duration that car parks within the Takanini Town Centre will be removed should be minimised to the extent possible for construction activities.

5.18. *Property Access - Construction*

5.18.1. NoR 1 Submitter 7 (18 Manuroa Road) Is concerned about how access will be provided during construction, particularly, for caregivers dropping off and picking up children for the childcare centre.

5.18.2. The NoR CTMP conditions would address the concern. Actual details as to how this would be provided for this site is best left to a later date when more detail is known about the actual design and the construction methodology. It is acknowledged, that this site will need careful consideration due to the frequency of vehicle movements and need to ensure the safety of those attending the centre, including young children. Landowners and occupiers affected by the work would need to be consulted and access arrangements agreed.

5.18.3. NoR 1 Submitter 11 (9-13 Taka Street) is concerned access from Taka Street for staff and visitors will be severed during construction, including for emergency vehicles.

5.18.4. The Construction Traffic Management Plan condition 18(a)((vi) requires detail of how property access will be maintained. How this would be achieved will depend on the construction methodology and details. In this case of this property access may be difficult to achieve due to proximity of the works and constraints to provide access to the site.

5.18.5. With regards to car parking, it is noted that the site to the north the submitter's site (at 15 Taka Street) is wholly within the designation and it may be possible to provide temporary parking and/or access from this site.

5.18.6. Access for emergency vehicles during construction would be addressed through the CTMP condition in consultation with the operator / land owner.

5.18.7. It is recommended that the Requiring Authority demonstrate the possible options for providing access and alternative car parking during construction either in evidence or at the hearing.

5.18.8. NoR 1 Submitter 12 (33 Oakleigh Avenue) has expressed concern that the property access would be affected during construction.

5.18.9. The property is accessed from Hitchcock Road and would be accessed via the proposed roundabout on Oakleigh Avenue. How access to this property will be maintained during construction would need to be demonstrated and this is addressed via the CTMP condition 18(a)(vi) during construction.

5.18.10. NoR 1 Submitter 15 (37-39 Oakleigh Avenue) requests that truck access to the site is maintained during construction.

5.18.11. Truck access to the site via a vehicle crossings towards the southern end of the site boundary with Oakleigh Avenue would be affected by construction of the roundabout and associated cycle and pedestrian facilities. The CTMP condition 18 (a)(vi) provides a requirement to ensure that property access is maintained during construction. The proposed condition is considered sufficient to address the concern.

5.18.12. NoR 1 Submitter 20 (16 Spartan Road) is concerned over the effects of site access onto Spartan Road during construction as this could affect the circulation of vehicles around the site.

5.18.13. It is acknowledged that the closure of the level crossing will affect inbound vehicles to the site which currently turn left into the site. The CTMP condition 18(a)(vi) would ensure that access is maintained during construction, and this may include amendments to the layout of the vehicle crossing. The Requiring Authority would need to work with the submitter to ensure that access arrangements enable the continued operation of the site.

5.18.14. NoR 2 Submitters 10 and 11 (164-166 Porchester Road) has raised concern about a requirement to maintain emergency access during construction.

5.18.15. This is considered to be a matter of detail that would be determined as part of traffic management plans. Given the importance of Porchester Road and Walters Road in the movement of vehicles, it is expected that measures will be required to manage the movement of vehicles, including emergency vehicles. The CTMP condition is considered sufficient to address this concern.

5.18.16. NoR 2 Submitter 19 (12 Walters Road) is concerned over the effects of construction on the access to their property and operation of the sites. This is of particular concern for large vehicles.

5.18.17. Given the location of the site in relation to the proposed bridge and the extent of land required for construction of the works, it is not clear how access will be maintained to the property during construction, or how the site will be able to continue to operate given the need to allow for the circulation and manoeuvring of vehicles on site.

5.18.18. It is recommended that the Requiring Authority, either in evidence of at the hearing, demonstrate how access will be provided during construction and how the site could continue to operate, allowing for the movement of heavy vehicles.

5.19. *Loss of Car Parking – Construction*

5.19.1. NoR Submitter 31 is concerned about the loss of on-street parking during construction, including due to additional demand for on-street parking because of construction workers.

5.19.2. The management of construction workers will be determined by the contractor at the construction stage of the project. Directions can be given to staff about parking and parking could potentially be provided within construction compounds to minimise the effects of construction workers parking on-street.

5.19.3. In some instances, parking on existing streets will need to be removed for construction activities, therefore, this may result in displaced parking for residents and businesses.

5.19.4. The CTMP condition does not specifically refer to the management of parking or parking for construction workers. It is recommended that the CTMP condition should be amended so that due consideration is given to the management of construction worker parking on surrounding roads.

5.19.5. NoR 1 Submitter 11 (9-13 Taka Street) is concerned about the effects of construction on on-site parking. Car parking on-site and off-site will be affected during construction. Parking is required as public transport is not always available for shift workers.

5.19.6. The effect on on-site parking for this property is dependent upon the ability to provide access. Access was discussed in paragraphs 5.18.3 to 5.18.7 and the recommendations made in relation to site access should also apply to parking for this site.

5.19.7. NoR 2 Submitter 17 has raised concerns about the removal of car parking within Takanini Town Centre during operation and construction.

5.19.8. The issue of the removal of car parking was discussed in paragraph 5.17.11 with recommendations in paragraph 5.17.12.

5.19.9. NoR 2 Submitter 19 (12 Walters Road) is concerned about the effects of loss of parking on the site and its effects on the site operation during construction.

5.19.10. This issue was discussed in relation to the site access in paragraphs 5.18.16 to 5.18.18.

5.20. *Pedestrian Connections – Construction*

5.20.1. NoR 2 Submitter 8 (1 and 5 Tironui Road and 254 Great South Road) requested that access for pedestrians is maintained to their property during construction of the works.

5.20.2. It is considered that the detail of the construction would be determined at a later date once the design is confirmed and a construction methodology is identified. The CTMP condition, in particular 18(a)(v) is considered sufficient in this regard.

6. NoR Conditions

6.1. I have reviewed the NoR conditions and consider that amendments are required to address specific matters raised in this memo in relation to the traffic and transportation effects. I provide my recommended amendments in the table below with comments on the reason for the amendments.

NoR	Recommended Condition / Amendment	Reasoning	Refer to recommendations in para 7.13
NoR 1 & 2	12 Urban and Landscape Design Management Plan *(f) (vi) Provides for or future proofs for future NIMT railway track capacity.*	New sub-clause (f)(vi) to ensure that the design takes into account potential increases in the number railway tracks e.g. the intention to provide four tracks along the NIMT.	Para 7.13 (p)
NoR 1	*(f) (vii) Provides for safe and direct pedestrian and cycle access to Takanini Station.*	New sub-clause (f)(vii) to ensure the design provides for suitable pedestrian and cycle access to Takanini Station.	Para 7.13 (p)
NoR 1	12 Urban and Landscape Design Management Plan *(f)(viii) Addresses temporary traffic and transport effects of the Project on the safe and efficient operation of the transport network where the Project is implemented in stages.*	New sub-clause (f)(viii) to address potential temporary effects where the NoR is implemented in stages.	Para 7.13 (h)
NoR 1 & 2	12. Urban and Landscape Design Management Plan (*g)(iii) i. Off-street parking required to be reinstated to meet operational and resource consenting requirements in consultation with landowners/occupiers.*	New sub-clauses i and j. for ULDMP condition 12(g)(iii) to ensure off-street parking is appropriately reinstated, and where appropriate, on-street car parking is provided.	Para 7.13 (n)

NoR	Recommended Condition / Amendment	Reasoning	Refer to recommendations in para 7.13
	j. On-street parking required to be reinstated, where appropriate, taking into account adjacent land uses, safety, and operational requirements.		Para 7.13 (o)
NoR 1	12. Urban and Landscape Design Management Plan *(i) The following specific design requirements shall apply to address effects of the project:*	New clause (i) to address site specific design matters / effects identified.	
	(i) The design shall demonstrate how effects on the operation of the Takanini Interchange and operation of Great South Road including congestion and delays for vehicles travelling to the SH1 Motorway are managed.	Sub-clause (i)(i) is to ensure that effects on the interchange are mitigated as these could affect the operation of the Project, in particular the Manuia Road bridge.	Para 7.13 (j)
	(ii) A preliminary design safe system design audit and Road Safety Audit shall be undertaken to determine measures required to address safety risks associated with the movement of heavy vehicles from Spartan Road properties west of the railway line to travel north of Great South Road from Spartan Road and to the northbound on-ramp at the SH1 Takanini Interchange. Appropriate mitigation	Sub-clause (i)(ii) is necessary to ensure that the movement of heavy vehicles from Spartan Road properties west of the railway line are safely accommodated.	Para 7.13 (g)

NoR	Recommended Condition / Amendment	Reasoning	Refer to recommendations in para 7.13
	measures shall be implemented to manage the safety effects; these could include measures to allow a U-turn movement on Great South Road or modifications to the Spartan Road / Great South Road intersection.		
	(iii) Spartan Road / Oakleigh Avenue intersection: Measures to manage the safe and efficient operation of the intersection with changes in turning movements due to closure of Spartan Road.	Sub-clauses (i)(iii) and (i)(iv) are to ensure that the design addresses the project effects on the Spartan Road and Manuroa Road intersections with Oakleigh Avenue with changes to predominant turning movements and potential safety effects.	Para 7.13 (k)
	(iv) Manuroa Road / Oakleigh Avenue intersection: Measures to manage the safe and efficient operation of the intersection with changes in turning movements due to closure of Manuroa Road.		Para 7.13 (k)
	(v) Manuroa Road and Spartan Road: Active mode connections shall be designed to be attractive, direct and minimise walk/cycle distance to maximise accessibility across the railway line.	Sub-clause (i)(v) is required to ensure that the design addresses adverse effects on pedestrians and cyclists across the railway line.	Para 7.13 (l)

NoR	Recommended Condition / Amendment	Reasoning	Refer to recommendations in para 7.13
	(vi) Taka Street: Wayfinding signage for pedestrians/cyclists and for motorists shall be provided to the community facility located at 8 Takanini Road.	Sub-clause (i)(vi) is consistent with the ATE recommendations and would assist way-finding for active modes and motorists to the Takanini community facility on Takanini Road.	Para 7.13 (m)
NoR 1 & 2	14 Existing Property Access *Prior to submission of Outline Plan, consultation shall be undertaken with landowners, occupiers, and tenants whose vehicle access to their property will be altered by the project. The Outline Plan shall demonstrate how safe reconfigured or alternative access will be provided, unless otherwise agreed with the landowner.*	Amendment required to ensure that occupiers and tenants of land are consulted on existing property accesses that are affected by the project.	Para 7.13 (q)
NoR 1 & 2	18 Construction Traffic Management Plan *18(a) A CTMP shall be prepared by a Suitably Qualified Person taking into account comments from key stakeholders (in accordance with Condition 8(iv) Management Plans) prior to the Start of Construction for Stage of Work. The objective of the CTMP is to …*	Amendment required to ensure input from stakeholders is taken into account in the preparation of the CTMP.	Para 7.13 (b)
NoR 1	18 Construction Traffic Management Plan *18(b) The construction of the works at each of Spartan Road, Manuia Road, Manuroa Road and Taka Street shall be coordinated to mitigate the traffic and*	New clause 18(b) to address effects of timing of construction of TLC projects in relation to each other and to incorporate the ATE Section 5.6 recommendations to	Para 7.13 (a)

NoR	Recommended Condition / Amendment	Reasoning	Refer to recommendations in para 7.13
	transport effects on the transport network. These works should ensure: *(i) A suitable alternative to facilitate traffic, pedestrian and cyclist movement is provided for the closure of Spartan Road or Manuroa Road level crossings such as constructing Manuia Road bridge. i.e., Spartan Road and Manuroa Road level crossings will not be closed until Manuia Road grade-separated bridge is constructed;* *(ii) A suitable alternative to facilitate traffic, pedestrian and cyclist movement should be provided for the closure of Taka Street level crossing during construction. This could mean the following:* *(a) Partial closure (provide a temporary road); and/or* *(b) Reroute traffic to an alternative*	address effects of construction.	

NoR	Recommended Condition / Amendment	Reasoning	Refer to recommendations in para 7.13
	connection such as Manuroa Road *(iii) In planning the sequencing of works and the timing of closures of works, community engagement shall be undertaken xxx months prior to commencing works.* *18(c) A preliminary design safe system design audit and Road Safety Audit shall be undertaken to determine measures required to address safety risks associated with the movement of heavy vehicles from Spartan Road properties west of the railway line to travel north of Great South Road from Spartan Road and to the northbound on-ramp at the SH1 Takanini Interchange. Appropriate mitigation measures shall be implemented to manage the safety effects; these could include measures to allow a U-turn movement on Great South Road or modifications to the Spartan Road / Great*	New clause 18(c) to address safety effects associated with the rerouting of heavy vehicles from properties on the western end of Spartan Road during construction .	Para 7.13 (g)

NoR	Recommended Condition / Amendment	Reasoning	Refer to recommendations in para 7.13
	South Road intersection.		
NoR 2	18 Construction Traffic Management Plan *18(b) A suitable alternative to facilitate traffic, pedestrian and cyclist movement should be provided for the closure of Walters Road level crossing during construction. This could mean undertaking offline construction or partial closure. If full closure of Walters Road is required for construction, then the following shall apply: Taka Street shall be open to traffic and with at least two of Spartan Road, Manuia Road bridge and Manuroa Road open to traffic.* *Advice Note: Measures for pedestrians and cyclists should include means to provide safe and convenient access to Takanini Town Centre across the railway line.*	Amendment to address effects of timing of construction of TLC projects in relation to each other.	Para 7.13 (a)
NoR 1 & 2	18 Construction Traffic Management Plan (a) … *(i) methods to manage the effects of temporary traffic management activities on traffic including on the parallel road crossings over the NIMT between Spartan Road and Subway Road.*	Amendment to ensure that effects of traffic management (including closure of roads) considers effects on parallel routes, including Subway Road	Para 7.13 (d)
	(v) Identification of detour routes and other	Deletions to (v) and new clause (v-A) added to ensure	Para 7.13 (e)

NoR	Recommended Condition / Amendment	Reasoning	Refer to recommendations in para 7.13
	methods to ensure the safe management and maintenance of traffic flows~~, including pedestrians and cyclists~~; (*v-A) Identification of alternative routes or management measures for pedestrians and cyclists to ensure direct, safe, and efficient movement of active modes.* *(vi-A) Methods to manage parking related to construction activities (including construction workers) to mitigate effects on the safe and efficient operation of surrounding roads*	any diversion route for pedestrians and cyclists is direct and minimises additional travel distance and time. New clause (vi-A) added to ensure the effects of parking associated with construction are managed to mitigate the effects on surrounding roads.	Para 7.13 (f)
NoR 2	18 Construction Traffic Management Plan (a) … *(vi) methods to maintain access to property (including Takanini Town Centre) (30 Walters Road)) and/or private roads where practicable, or to provide alternative access arrangements when it will not be;* *(vi-B) methods to minimise the number and duration that any car parks within Takanini Town Centre (30 Walters Road) will be removed, to the extent possible.*	Amendment to clause 18(a)(vi) to ensure effects on access to Takanini Town Centre is addressed. New sub-clause 18(a)(vi-B) to ensure removal of on-site parking within Takanini Town Centre is minimised.	Para 7.13 (c)

6.2. The above recommended changes seek to address matters raised in this report, including property related effects on the majority of properties where significant effects have been identified. In the alternative, a Schedule (as recommended in paragraph 7.13 (i)) detailing significantly affected properties would enable matters such as property access, operation of on-site activities and management of parking, are clearly identified so that those effects are appropriately avoided, remedied, or mitigated by the Project.

NoR	Property	Affects to be Addressed	
		Construction	Operation
NoR 1	1-15 Spartan Road	Effect on movement of heavy vehicles to the wider network, in particular, to SH1 northbound and to Great South Road northbound. Effect on operation of site, including effect on truck and car parking.	Effect on movement of heavy vehicles to the wider network, in particular, to SH1 northbound and to Great South Road northbound. Effect on operation of site, including effect on truck and car parking.
NoR 1	18 Manuroa Road	Effect on access.	Removal of on-site car parking and ability for safe drop off and pick up facilities for caregivers.
NoR 1	9-13 Taka Street	Effect on car parking. Effect on vehicle access from Taka Street including for staff, visitors, and emergency vehicles.	Effect on car parking. Effect on vehicle access from Taka Street including for staff, visitors, and emergency vehicles.
NoR 1	166-168 Great South Road	Effect on site operation (including site infrastructure) due to land required for construction. Effect on safety and general site operation due to provision of access to 7 and 9-13 Taka Street via 166-168 Great South Road.	Effect on site operation (including site infrastructure) due to land required for operation (including South FTN NoR 1). Effect on safety and general site operation due to provision of access to 7 and 9-13 Taka Street via 166-168 Great South Road.
NoR 2	12 Walters Road	Effect on site access and operation due to land required for construction.	Effect on site access and operation due to land required for operation.
NoR 2	Takanini Town Centre	Effect on general vehicle access and servicing access during construction with any closure of Walters Road	Mechanisms to enable the provision of pedestrian (and cycle) access to Takanini Town Centre from Walters Road.

NoR	Property	Affects to be Addressed	
		Construction	Operation
		access to Town Centre or closure of Walters Road. Effect on car parking along Walters Road frontage within the town centre due to construction.	

7. Conclusions and Recommendations

7.1. The following conclusions and recommendations are made with respect to traffic and transportation issues.

7.2. Overall, I consider that the Notice of Requirements generally meet the project objectives with regards to traffic and transportation except where outlined below and subject to provision of further information as outlined in paragraph 7.12. I consider appropriate conditions are required to manage traffic and transportation effects, including recommended changes in paragraph 7.13 (as detailed in Section 6).

7.3. For construction, I generally agree with the approach adopted to assess the traffic effects due to construction and generally agree with the assessment of those effects at the network wide level. However, I consider that the NoR conditions do not sufficiently ensure those effects are appropriately managed in relation to the staging of the construction of the TLC projects (both NoR 1 and NoR 2) and I consider that key recommendations of the ATE should be adopted within the NoR conditions.

7.4. In terms of the specific property related effects during construction, I consider that on the whole, the NoR conditions to be sufficient to manage those effects. However, there are some site specific effects which I consider are not sufficiently addressed by the conditions. Therefore I consider that either refinement of the NoR conditions is required or a Schedule is required to identify those specific properties and the matters to be addressed.

7.5. For operation, I consider that the TLC projects, once all completed, will achieve the objective of increasing the east-west capacity over the railway line at the local level. However, I have concerns that the project will have adverse effects on providing access to the adjacent strategic road network (SH1 at Takanini Interchange), and I consider that further information is required on this to determine the effect on the interchange and on the operation of key Great South Road intersections.

7.6. I am concerned about network resilience with the closure of both Spartan Road and Manuroa Road being replaced by the single crossing at Manuia Road for freight and general traffic and how the project will meet this specific objective.

7.7. Prior to the completion all the TLC projects (in particular NoR 1), I consider that there may be temporary traffic and transport related effects with the staged construction of the Project. This has not been assessed in the ATE due to the number of permutations of constructing and closing the four crossings over the NIMT. I consider a condition will be required to address this matter.

7.8. I agree that there will be crash savings with the project in relation to the level crossings. However, I consider that the crash benefits across the wider road network presented in the ATE are overstated. Notwithstanding overall, I consider the safety objective of the project would be met by the project.

7.9. In terms of active modes, the concept design for overbridges at Spartan Road and in particular Manuroa Road, could be a deterrent for active modes due to the extent of switch backs on the bridges and therefore the project may not appropriately meet the mode shift project objective. Alternatives such as underpasses may provide better facilities, subject to careful design, and could enable the designation boundary to be reduced. I consider that the project has not sufficiently considered the alternatives for the active mode connections at Spartan Road and Manuroa Road.

7.10. With regards to NoR 1 and each specific proposed railway line crossing, I have the following conclusions:

Spartan Road

a) The provision of the active modes connection is supported but the proposed bridge would not be an attractive facility for active modes due to the long switch backs on the bridge, and therefore, would not meet the objective of improving active mode facilities and travel choice.

b) Alternatives for the active mode bridge, such as an underpass have not been considered.

c) The NoR conditions do not adequately address the effects on the movement of heavy vehicles from properties west of the railway line to be able to travel north of Spartan Road on Great South Road, particularly to access SH1 via the northbound on-ramps. This is inconsistent with the project objective to support enhanced access to economic opportunities.

d) The project will change the routeing of traffic through the Spartan Road / Oakleigh Avenue / Westbrook Avenue intersection and the effects on the safe and efficient operation of this intersection have not been assessed.

Manuia Road

e) The Manuia Road bridge is essential to providing alternative routes to Spartan Road and Manuroa Road and meets the project objective of enabling safe movements across the NIMT and east-west movements of all users.

f) The Manuia Road bridge will provide for traffic movements from the existing Spartan Road and Manuroa Road routes. A single alternative route may not be sufficient to provide for network resilience in the event of an incident.

g) I am concerned over the safety of the proposed intersection between the new bridge and the existing Manuia Road due to its proximity to Great South Road intersection.

Manuroa Road

h) I support the provision of the active modes connection on Manuroa Road as this is necessary to provide connectivity to key destinations.

i) The active mode bridge would not be an attractive facility for active modes due to the long switch backs on the bridge and would not meet the objective of improving active mode facilities and travel choice.

j) Alternatives for the active mode bridge, such as an underpass have not been considered.

k) The project will change the routeing of traffic through the Manuroa Road / Oakleigh Avenue intersection and the effects on the safe and efficient operation of this intersection have not been assessed.

l) The alignment of the turning head on the eastern side of the level crossing has not been sufficiently justified to demonstrate that land required at 18 Manuroa Road for the turning head is reasonably required.

Taka Street

m) The proposed bridge will improve the safety and efficiency of movements along Taka Street as this removes the level crossing.

n) The closure of Takanini Road at Taka Street whilst restricting access from its northern end will make Takanini Road safer for residents by reducing through traffic.

o) The access lanes to provide access to properties are generally supported. However, I have concerns over the means to provide safe and effective access to 7 and 9-13 Taka Street via the access way through 166-168 Great South Road (Z petrol station) both during construction and operation.

p) I have concerns on the safety of the intersection between Taka Street and the access lane west of the railway line and north of Taka Street due to its proximity with Great South Road / Taka Street intersection. Right turn movements may need to be restricted affecting property access.

7.11. With regards to NoR 2 and the Walters Road railway line crossing, I have the following conclusions:

Walters Road

a) I consider that the proposed bridge will improve the safety and efficiency of movements along Walters Road as this removes the level crossing.

b) I am concerned about the feasibility of the access lane arrangements to the properties north of Walters Road west of the railway line and the ability to accommodate the movement of heavy vehicles.

c) The effects of restricting access to Takanini Town Centre during the construction of the project, should Walters Road be closed to traffic for extended periods has not been adequately assessed. I consider that this would result in the routeing of vehicles, including heavy delivery vehicles, through residential roads.

7.12. I consider that further Information or detail as to how effects will be addressed should be provided by the Requiring Authority either in evidence or at the hearing on the following matters:

a) Provide further assessment to support the closure of Manuroa Road, particularly in regard to the network resilience, taking into account the availability of rail crossings between Spartan Road and Taka Street upon completion of the project.

b) An assessment should be provided of the safe and efficient operation of the Spartan Road / Oakleigh Avenue intersection and the Manuroa Road / Oakleigh Avenue intersection due to re-routeing traffic with the closure of Spartan Road and Manuroa Road level crossings.

c) Provide an assessment of alternative measures for the active mode connections at Spartan Road and Manuroa Road, such as a pedestrian/cycle underpass, including demonstrating the land that is reasonably necessary for the project.

d) Provide details as to how the proposed new intersection between the Manuia Road bridge with the existing Manuia Road would be treated to ensure its safe and efficient operation.

e) Provide details of the effects of the proposed works on the property located at 37-39 Oakleigh Avenue where a new building is being constructed.

f) Updated SIDRA modelling should be provided for the Oakleigh Road roundabout with heavy vehicles included for Hitchcock Road. The volume of vehicles using Hitchcock Road should be checked.

g) Results of the traffic modelling undertaken in relation to the response to s92 transport request T10 for the Great South Road / Manuia Road, including SIDRA model Summary Lane and Approach results should be provided.

h) Further analysis should be provided of the operation of the proposed Manuia Road / Great South Road traffic signals in combination with the operation of the Takanini Interchange to demonstrate that the network would operate efficiently and safely, together with a more robust assessment of the delays associated with the operation of the Takanini interchange. The assessment should take into account lane utilisation and effects of queues on the safe and efficient operation of intersections.

i) Provide an assessment of the safe and efficient operation of the access lane west of the railway line and north of Taka Street at its intersection with Taka Street and any turning restrictions identified which could affect vehicle routeing.

j) Provide an assessment of the effects on traffic routeing for access to the Takanini Town Centre during construction and measures to address those effects.

k) Provide details as to any anticipated restriction on turning movements at the Walters Road / Tironui Road intersection and associated traffic effects.

l) Provide details of measures for 1 and 15 Spartan Road to mitigate the effects on on-site car / truck parking and / or adjust the design and designation to address the adverse effects. This should take into account alternatives for the provision of the active modes connection as recommended in paragraph 7.12 c).

m) Provide details of how access could be provided to the site at 102 Great South Road and how an alternative layout to provide a petrol filling station could be achieved, including replacing the proposed batter slopes with retaining structures, for the operation of the site.

n) It should be demonstrated that it is reasonably necessary to position the turning head partly within 18 Manuroa Road rather than designing it with an offset to the south.

o) Further assessment and evidence is required on the suitability of the proposed access lane arrangement to 7 and 9-13 Taka Street, the effects on the operation of the site at 166-168 Great South Road and the feasibility of amending the site layout to provide a feasible layout arrangement (including relocation of critical infrastructure for the operation of the site). It should demonstrate the possible options for providing access and providing alternative car parking for 9-13 Taka Street. The assessment is required for both construction and project operation.

p) Demonstrate how the project will mitigate the effects on 1-3 Walters Road for the future operation of the site.

q) Provide plans of vehicle tracking that demonstrate that trucks (including semi-trailers and B-trains) are able to enter and exit the access lanes from Walters Road, traverse the access lanes and access properties such as 12 and 20A Walters Road, and / or provide details as to how practical and safe access for heavy vehicles will be retained with the proposed layouts. This is required for both construction and project operation.

r) Demonstrate how the occupier of 12 Walters Road (Carters Building Supplies) would be able to continue to operate on the site during construction and operation with the removal of loading and parking areas along the Walters Road frontage.

s) Provide confirmation, or otherwise, that it is the intention that the car parks along the frontage with Walters Road for Takanini Town Centre and Southgate Shopping Centre are only required for construction of the works and that these would be reinstated post construction.

t) Confirm whether the proposed works to 164-166 Porchester Road on the Walters Road frontage can be constructed from within the road reserve rather than requiring land within the property. This is needed to demonstrate that the land required for the proposed designation is reasonably required.

u) Differences in traffic volumes on Walters Road should be explained and, whilst not a traffic matter, if necessary, noise calculations / assessment for NoR 2 (or NoR 4 for the South FTN) should be updated accordingly.

Recommendations on Proposed Conditions

7.13. I make the following recommendations on the proposed NoR conditions to address traffic and transport related effects. Where I propose wording changes to the NoR conditions, I have detailed these in Section 6 above.

a) The CTMP condition should ensure that the TLC projects are appropriately staged and coordinated to mitigate the effects of the construction of the various TLC projects and that the conditions manage the effects of the different road users / transport modes. This should include the ATE recommendation that Walters Road be constructed off-line. Different wording will be required for NoR 1 and NoR 2.

b) The CTMP condition should require input from key stakeholders and comments incorporated in accordance with the Management Plans Condition 8(iv).

c) The CTMP condition should show how access would be managed for major facilities such as Takanini Town Centre, and that the number and duration that car parks within the Takanini Town Centre will be removed should be minimized to the extent possible for construction activities.

d) The CTMP condition should include reference to the Subway Road east-west connection as this is adversely affected by both NoR 1 and NoR 2, particularly for construction of Taka Street and Walters Road.

e) The CTMP condition in NoR 1 and NoR 2 should require the provision of safe and direct alternatives for pedestrians and cyclists during construction.

f) The CTMP condition should be amended so that parking associated with construction and operation is managed to minimise effects on surrounding roads.

g) The CTMP and ULDMP conditions should provide appropriate measures to enable heavy vehicles from Spartan Road properties west of the railway line to travel safely to Great South Road north of Spartan Road both during project operation and construction. As a minimum these should include the requirement for a preliminary design safe system audit and Road Safety Audit as was recommended in the ATE.

h) The ULDMP condition should ensure that any temporary traffic and transport related effects of the staged construction of NoR 1 are considered and addressed.

i) The ULDMP and CTMP condition should address construction and operation related property effects where these are significant; this could be way of specific NoR conditions or a schedule listing relevant properties. These properties are considered to be:

    (i) 1 and 15 Spartan Road

    (ii) 18 Manuroa Road

    (iii) 9-13 Taka Street

    (iv) 166-168 Great South Road

    (v) 12 Walters Road

    (vi) Takanini Town Centre

j) The ULDMP condition should be amended to ensure that the project appropriately address the effects on the SH1 Takanini Interchange if an assessment is not provided, or if an assessment shows that there is a more than minor effect on the interchange.

k) The ULDMP condition should require an assessment of the safe and efficient operation of the Spartan Road / Oakleigh Avenue and Manuroa Road / Oakleigh Avenue intersections due to amended traffic patterns with the project.

l) The ULDMP condition should be amended to ensure the design provides for safe and direct pedestrian and cycle facilities at Spartan Road and Manuroa Road.

m) The ULDMP condition should provide for wayfinding signage to the community facilities on Takanini Road for pedestrians and motorists as recommended in the ATE.

n) The ULDMP condition should ensure the reinstatement of on-street parking is considered during the development of the design taking into account road functions and adjacent land uses.

o) The ULDMP condition should ensure that the Requiring Authority liaises with stakeholders to reinstate on-site parking.

p) The ULDMP condition should be amended to include specific requirements for future proofing the NoR designs for future NIMT railway track capacity and providing connections to the station for pedestrians and cyclists.

q) The Existing Property Access condition should refer to occupiers as well as land owners, as the changes may affect tenants or businesses who do not own the land.

Martin Peake

28 February 2024

ETUD

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To: Joy LaNauze

From: Jason Evans - ET Urban Design Ltd

Date: 07.03.24

Subject: Proposed Notice of Requirement (NoR 1) and NoR 2 Takaanini rail crossings

Hi Joy,

Thank you for forwarding the Notice of Requirement (NoR) application documents together with copies of the submissions received on the applications. As instructed, I have focused on the urban design matters of the proposal and submissions. Whilst I have tried to keep the memorandum as succinct as possible, I have structured the report into two parts corresponding to each NoR. I considered this to be the most effective way of addressing the issues and responding to the submissions in a clear and ordered manner.

1.0 Preamble

ET Urban Design Ltd was contracted to undertake an urban design assessment of the proposed NoR's on 14.02.2023. Prior to the receipt of the NoR documentation, I visited each of the sites and surrounding area.

1.1 Executive Summary

The central conclusion of this assessment is that whilst at a high level the purpose of the NoR's will achieve an improved degree of connectivity, the physical effects of doing so are likely to result in adverse urban design effects for some locations. Some of these effects may be adequately mitigated by future design refinement and decisions. In particular, I accept that the crossings proposed at Spartan Road, Manuia Road and Manuroa Road can conceivably be refined to achieve an acceptable urban design outcome given their respective contexts.

I remain unconvinced on the basis of the outline plans for Taka St and Walters Road that the effects of the proposal will not be adverse and capable of adequate mitigation through the UDLMP process. Specifically, I consider the likely massing effects of the bridge structures will result in adverse amenity effects, create areas unsafe from a CPTED perspective and not integrate suitably with the surrounding development. I have however reviewed the conditions contained in the UDLMP in the event that the NoR's are approved and suggested amendments where necessary.

1.2 Qualifications and experience

I hold a BSc. (Hons) in Environmental Planning and a Post Graduate Diploma in Urban Design from the University of the West of England (1993). I am a member of the Royal Town Planning Institute and an associate member of the Institute for Historic Buildings Conservation. I hold certification as an independent hearing commissioner from LGNZ / MfE. I have over 30 years' professional local government and private sector experience in master planning, urban renewal and regeneration, resource consents, building conservation and policy planning.

1.2.1 Examples of my experience most relevant to this project are:

- Urban design advisor on the development of performance standards for the Auckland Unitary Plan ("AUP") Residential Chapter.
- Strategic planner for Plan Change (PC) 101, Orewa, PC127 Huapai, PC123 Silverdale.
- Urban designer for PC 30 Beachlands, PC 34 Pine Harbour, PC 20 Flat Bush.

1.3 Expert Witness Code of Conduct

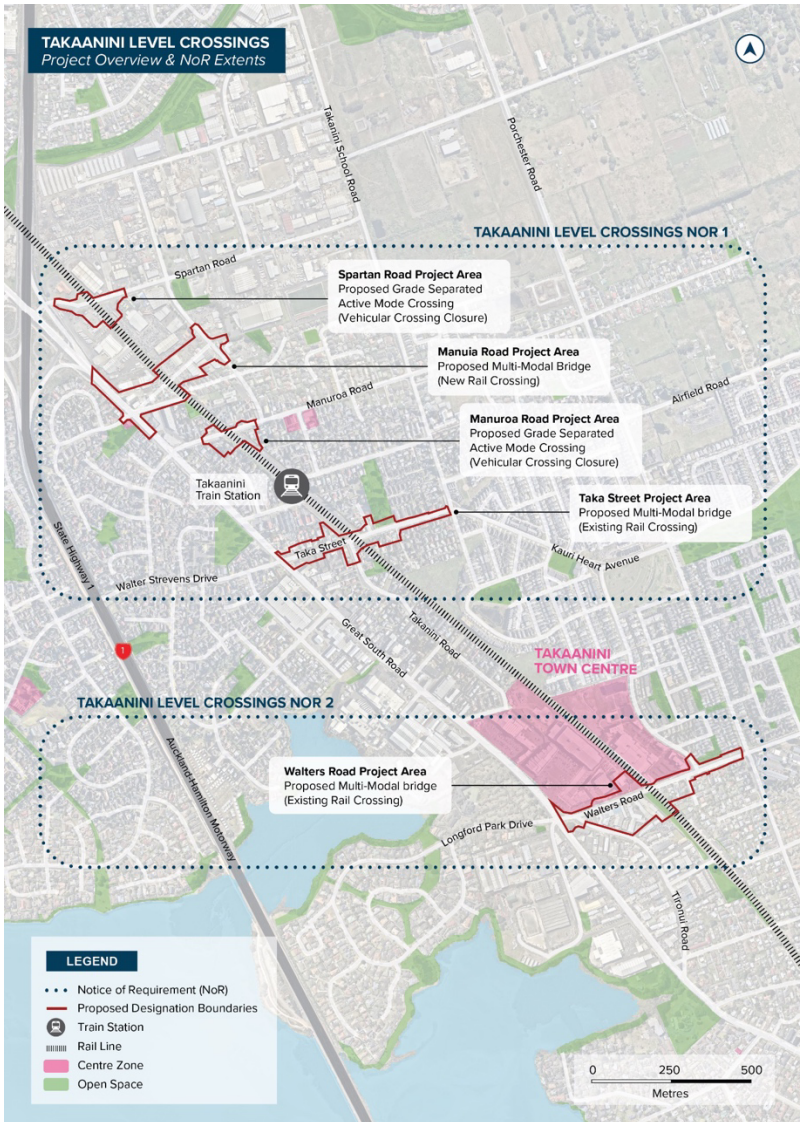
I have read the Code of Conduct for Expert Witnesses, contained in the Environment Court Consolidated Practice Note (2023) and I agree to comply with it. I can confirm that the issues addressed in this statement are within my area of expertise and that in preparing my evidence I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

2.0 Overarching purpose of NoR 1 & NoR2

Form 18 of the NoR application documents outlines the overarching purpose of the application, summarised as:

'There are currently four public road level crossings along the North Island Main Trunk (NIMT) line in the Takaanini area at Spartan Road, Manuroa Road, Taka Street and Walters Road. Each of these east-west corridors experiences congestion, severance, and an elevated level of safety risk stemming from the operation of the level crossings at grade. These existing issues will be exacerbated by growth in the Takaanini area and an increase in train movements through Takaanini anticipated from KiwiRail's planned expansion of the NIMT line from two tracks to up to four tracks (Four Tracking) and the City Rail Link enabling works.

Safe and reliable east-west connections across the NIMT will be required to address these collective transport issues. Overall, the TLC Project proposes to achieve this through the closure and grade separation of the existing four level crossings in Takaanini, and a new grade separated crossing on the alignment of Manuia Road where no NIMT crossing currently exists. The works required for the TLC Project are located across five project areas at Spartan Road, Manuia Road, Manuroa Road, Taka Street and Walters Road.



Above: Plan from the UDE showing proposal in project areas for NoR 1 & NoR 2.

2.1 The purpose of the works is therefore one of improving the existing level of safety for crossing the NIMT and ensure that the infrastructure can accommodate the longer term expansion plans of rail services. Accommodating this objective must also be reconciled with safe convenient east west connections for vehicles, pedestrians, and cyclists.

3.0 Urban design assessment structure and methodology

The application contains a number of specialist reports together with the Assessment of Environmental Effects (AEE). I have read and considered the following reports to be most relevant to urban design matters:

- Takaanini Level Crossings Assessment of Arboriculture Effects.

- Takaanini Level Crossings Assessment of Landscape Effects I & II including Supplementary assessment.
- Takaanini Level Crossings Assessment of Transport Effects.
- Takaanini Level Crossings Urban Design Evaluation.
- Takaanini Level Crossings Assessment of Environmental Effects including Appendix A.
- Takaanini Level Crossings Final Proposed Conditions.
- Takaanini General Arrrangement Plans NoR 1 and NoR 2.

3.1 The Urban Design Evaluation (UDE) remains my primary focus and is the key document informing details of the proposed Urban and Landscape Design Management Plan (ULDMP) that will guide the detailed design development of works if the NoR's are approved. The UDE assessment methodology puts forward five key headings (with each having more detailed points of consideration). The key headings or urban outcomes (please refer to UDE Appendix A for full details) for assessment purposes are:

Environment – Principle 1.1 - 1.4

- Support and enhance ecological corridors and biodiversity.
- Support water conservation and enhance water quality in a watershed.
- Minimise land disturbance, conserve resources and materials.
- Adapt to a changing climate and respond to the microclimatic factors of each area.

Social – Principle 2.1 - 2.5

- Identity and place.
- Respect culturally significant sites and landscapes.
- Adaptive corridors.
- Social cohesion.
- Safety.

Built Form – Principle 3.1 - 3.3

- Align corridors with density.
- Corridor scaled to the surrounding context and urban structure.
- Facilitate an appropriate interface between place and movement.

Movement – Principle 4.1 - 4.6

- Connect nodes.

- Connect modes.
- Support access to employment and industry.
- Prioritise active modes and public transport.
- Support inter-regional connections and strategic infrastructure.
- Support legible corridor function.

Land Use – Principle 5.1 - 5.2

- Public transport directed and integrated into centres.
- Strategic corridors as urban edges.

3.2 The UDE also recognizes the policy context of national planning documents such as National Policy Statement on Urban Development (NPS-UD) and Government Policy Statement on Land Transport. It also considers the more specific 'local' level policies and guidance, including the Regional Policy Statement and AUP(OP) chapters.

3.3 I agree this approach provides a useful framework to assess the various outline works contained within the NoR's. I have therefore broadly adopted this approach so that direct comparisons can be made between the UDE assessment and my own. For each project area I have reproduced the UDE assessment table and provided my comparative assessment. Where necessary I have reproduced the original assessment text and this is underlined and italicized for distinction. At the end of each section, I have provided my conclusion.

4.0 Notice of Requirement 1 — overview

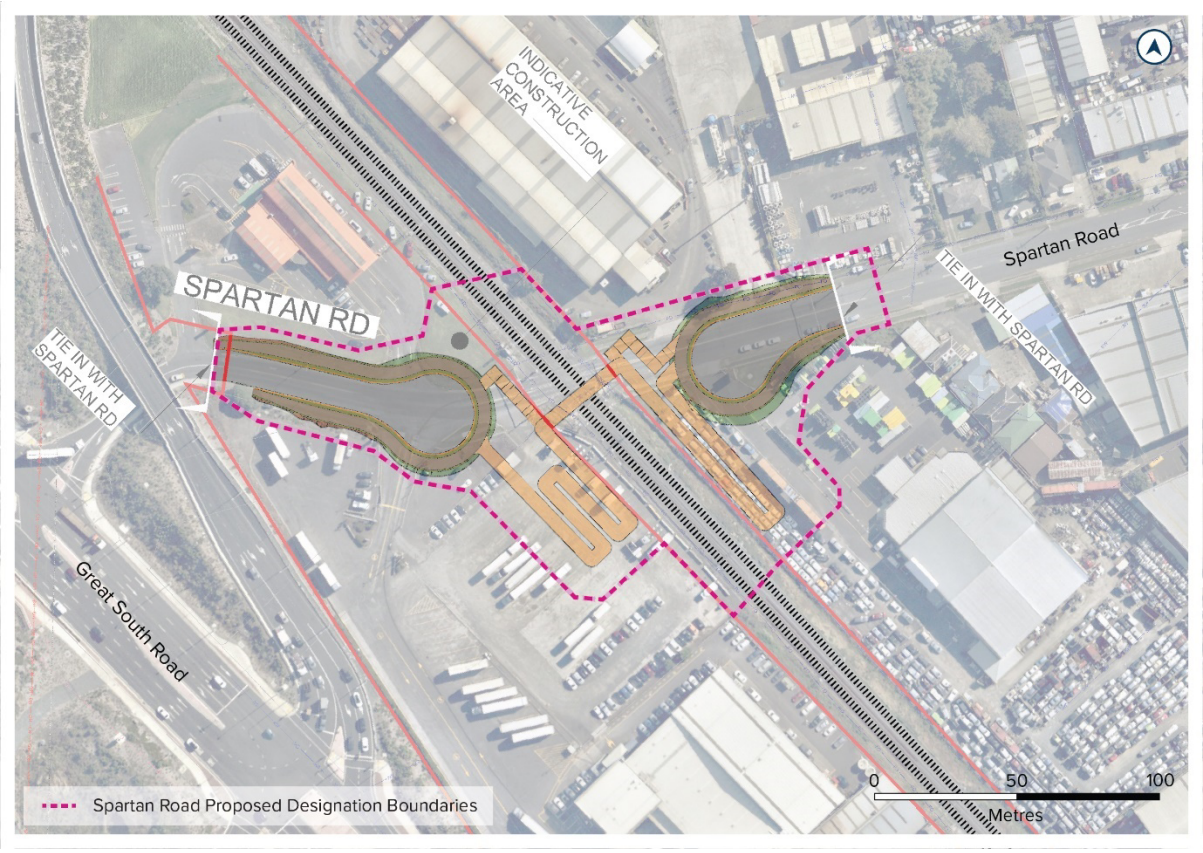
NoR 1 encompasses the majority of the proposed works, with NoR 2 dedicated to the Walters Road crossing. An overview statement of the proposed NoR 1 works is provided on Form 18 of the lodgement documents and states:

'NoR 1 is for the construction, operation, maintenance and upgrade of transport infrastructure on and around Spartan Road, Manuia Road, Manuroa Road and Taka Street which includes the closure of the existing level crossings at Spartan Road, Manuroa Road and Taka Street, new bridges with general traffic lanes and walking and cycling facilities across the NIMT line at Manuia Road and Taka Street, new bridges with walking and cycling facilities across the NIMT line at Spartan Road and Manuroa Road, as well as all associated works.'

4.1 Spartan Road – overview

The key features of the Spartan Road outline proposal are:

- Closure of the existing road corridor to vehicular traffic across the NIMT.
- Construction of an active mode bridge across the NIMT.
- Construction of cul-de-sacs (accommodating footpaths) and works to tie into the existing corridor on either side of the NIMT along Spartan Road.
- Ramps and stairs will connect to the bridge on either side (east and west) of the NIMT and will tie into the cul-de-sacs.



Above: Plan from the UDE showing proposal in context.

4.2 Assessment

The surrounding area east of the rail line is largely characterised by industrial activities, comprising small, medium and large commercial buildings and extensive yard areas for storage or servicing requirements. Some residential activities are evident (34 & 36 Spartan Road) but these are incidental to the prevailing industrial character. The street environment east of the rail line offers continuous footpath connections on both sides of the street and grassed front and rear berms. Boundary definitions are most often fenced

with a variety of chain link and palisade fencing that permits a view of the yard areas. Larger trees are infrequent and, where evident, usually located within the property boundaries of the commercial buildings. The only tree in the public realm identified by the applicant's arborist is a Brazilian Pepper Tree (considered a pest) located outside 1 Spartan Road. West of the rail line, the street character alters, with only one footpath to the south side of the road and extensive lawned frontage to the VTNZ property. The footpath connects to Great South Road.

4.2.1 With respect to likely future development in the area, the UDE concludes the area will remain industrial in character, which reflects the AUP(OP) land use zone (General Business Heavy Industrial and General Business Light Industrial). I agree with this conclusion.

4.2.2 The landscape and visual effects assessment for Spartan Road considers the area has a low visual amenity owing to the scale and general nature of the business activities in the area. I agree with this assessment.

4.2.3 With respect to proposed works, it is anticipated that the roads leading to the rail crossing will be terminated by a cul-de-sac head with a shared pedestrian/cycle path crossing over the rail line. The height of the crossing area will be 7.8 m minimum to provide for a safe crossing height. The illustrative proposal for the crossing shows extensive ramped paths as well as more direct stepped paths to achieve the required height for safe crossing. Whilst I appreciate the objective of the design to cater for accessibility, the length of ramps seems to be excessive as illustrated, and I encourage via the ULDMP the design of a more compact footprint solution that avoids very long 'switch back' ramps. I am also mindful that any solution will need to integrate successfully with the adjacent land holdings and accommodate the practical servicing and operational demands of those businesses, including the service yard areas. It is very important a proper understanding of access requirements is incorporated into any design solution.

4.2.4 The following table provides my assessment against the key urban design headings:

Principle	Application to Spartan Road
1.1 **Support and enhance ecological corridors and biodiversity**	The UDE assessment refers to the overall assessment (Table 7) noting the NoR's overall have limited interface with ecological areas. Based on my understanding of the Spartan Road environment I do not consider this principle relevant to the assessment of the proposal.
1.2 **Support water conservation and enhance water quality in a watershed**	The UDE assessment considers this principle in general terms with nothing specific noted for Spartan Road. In general terms the UDE notes the flexibility of the designations and potential capacity to incorporate sustainable urban drainage systems as appropriate. I support this overarching principle.
1.3 **Minimise land disturbance, conserve resources and materials**	As above, the UDE notes nothing specific for the Spartan Road but does identify under the overall network assessment the scope in detailed design stage to mitigate the extent of earthworks and hard engineering. I support this recommendation noting that alternative means of achieving the safe crossing height (elevator) should be investigated to reduce the extent of ramps.
1.4 **Adapt to a changing climate and respond to the microclimatic factors of each area**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. With respect to the Spartan Road crossing the proposal will result in the diversion of vehicles to an alternative route whilst maintaining direct connectivity for the pedestrian and cyclist. The influence of the proposal to positively influence micro climactic factors on Spartan Road is minimal in my opinion.
2.1 **Identity and place**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. The built character of the area is less of a people focused environment in the way local centres or residential neighbourhoods are. Whilst capable of environmental improvement through street planting, for example, the day-to-day emphasis for the area is its productivity value and efficiencies of the business function of sites. I believe that this needs to be prioritized in the final design to ensure the primary value and function of the area is not compromised.
2.2 **Respect culturally significant sites and landscapes**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. The Spartan Road area is not identified as offering any inherent cultural significance, and I do not therefore consider the outline works will have any adverse effects to this principle.

Principle	Application to Spartan Road
	I acknowledge in general terms however the significance of the wider area and the safeguards within the UDLMP to engage with Manawhenua.
2.3 Adaptive corridors	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. The Spartan Road proposal offers limited flexibility owing to the proposed closure of the road connection. The Spartan Road connection cannot be regarded in my opinion as offering an adaptive corridor solution.
2.4 Social cohesion	The UDE notes that the project area provides direct connectivity for active modes users from the Great South Road FTN and the Takaanini industrial area. This is a positive urban design outcome and maintains the existing arrangement. The UDE also notes the extensive areas of land taken for the ramp structures and notes that the future design stages the designation should consider ramp arrangements that promote a more direct level of connectivity. I support this and add that the future design solution should also seek to acknowledge and limit the degree to physical impact on the affected properties.
2.5 Safety	The UDE notes that there is a CPTED concern for this project area due to its location in an industrial environment with limited passive surveillance. Specifically, where the proposed ramp is isolated between the rail line and industrial properties. The UDE recommends that future design stages should consider a ramp arrangement that minimizes the distance away from the road and ensures clear site lines are kept. I support this recommendation.
3.1 Align corridors with density	The UDE notes that this principle is not relevant to the Spartan Road project area as its function is to provide connectivity to the Takaanini Industrial area. I agree with this assessment.
3.2 Corridor scaled to the surrounding context and urban structure	The UDE notes that the scale of the structure is 'generally consistent with the industrial context and surrounding large scale building form'. I agree that the setting of the proposal is of a low visual amenity and therefore sensitivity to the outline proposal.
3.3 Facilitate an appropriate interface	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. For the Spartan Road environment design measures that reconcile CPTED matters are also likely to ensure that the relationship

Principle	Application to Spartan Road
between place and movement	between the crossing and the operation of adjacent sites is effectively managed i.e. providing for direct connectivity that is appropriately lit and with clear sightlines.
4.1 Connect nodes	The UDE notes that the project area connects active mode users between the future Great South Road FTN and the Te Mahia Station. I acknowledge this in the broadest sense in that the connection maintains an existing level of service for pedestrians and cyclists.
4.2 Connect modes	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. The proposed closure of the vehicle crossing reduces the level of connectivity but the active mode crossing will maintain and improve the safety of crossing for the pedestrian and cyclist.
4.3 Support access to employment and industry	The UDE notes that the project area provides direct active mode connectivity to the Takaanini light and heavy industrial area. I agree with this but note also that the closure of the vehicle connection will reduce the 'direct and efficient access' to the industrial area to some degree.
4.4 Prioritise active modes and public transport	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. It is possible that the removal of vehicle access will encourage a shift to walking/cycling for some users requiring access to the area.
4.5 Support inter-regional connections and strategic infrastructure	The UDE makes no specific comment on this principle but refers in general terms to the overall project area and relevance of the crossing to support the future rail expansion (four tracking). I agree with this assessment.
4.6 Support legible corridor function	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. The closure of the vehicle crossing and termination in cul-de-sac heads does not support general urban design objectives of connectivity and legibility.
5.1 Public transport directed and integrated into centres	The UDE notes that this principle is not directly relevant to the Spartan Road project area. I agree with this conclusion.
5.2 Strategic corridors as urban edges	The UDE notes that this principle is not directly relevant to the Spartan Road project area.

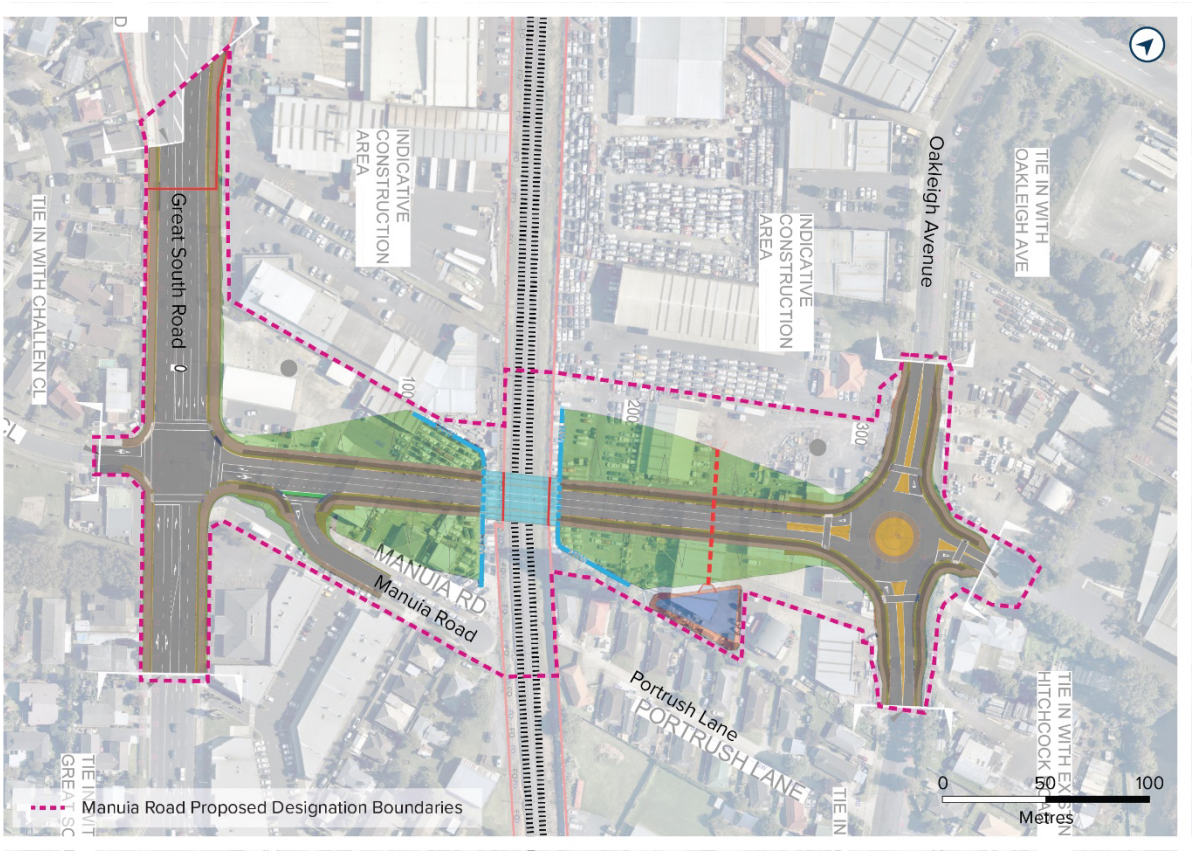
Principle	Application to Spartan Road
	I agree with this conclusion.

4.2.5 In summary, the Urban Design Evaluation (UDE) for the Spartan Road establishes that some principles are less relevant due to the industrial nature of the area. Key urban design recommendations include minimizing land disturbance, enhancing safety, and promoting active modes of transportation. The assessment emphasizes the importance of considering these principles in future design stages to ensure a well-balanced and effective solution that aligns with the specific needs of the Spartan Road environment. Specifically, certain areas such as CPTED and reconciling the detailed design with neighbouring operational land requirements can be managed through the ULDMP. Overall I agree with these conclusions noting the particular importance of providing as direct connection as possible.

4.3 Manuia Road - overview

The key features of the Manuia Road outline proposal are:

- There is currently no existing east-west corridor / level crossing across the NIMT in this project area.
- Construction of a new arterial road bridge across the NIMT accommodating two lanes (one in each direction) and separated active mode facilities.
- Construction of new arterial road corridors tying into either side of the bridge (east and west of the NIMT) accommodating two vehicle lanes (one in each direction) and separated active mode facilities.



Above: Plan from the UDE showing proposal in context.

4.3.1 Assessment

The context for the proposal aligns with the meeting point between different character land uses. To the north of Manuia Road on both the east and west sides of the rail line the land uses are industrial in nature, comprising larger footprint commercial buildings similar to the Spartan Road area with extensive yard areas. To the south of Manuia Road, the land uses are residential, retail and commercial services focused. There are community facilities in the immediate area (Scout Hall) and childcare facilities in the wider area (clustered along Oakleigh Ave). Generally, building footprints and forms retain a more domestic architectural scale when compared with the industrial activities to the north. Built character therefore differs between the north and south of the proposed alignment, with the north side less sensitive to visual change (albeit operational effects may be considerable). The landscape visual appraisal recognises visual effects will be adverse, but be of very low to low magnitude.

4.3.2 The proposed crossing will comprise a completely new connection consisting of a two lane arterial bridge with separated cycle and pedestrian paths either side of the vehicle lanes. This general configuration is retained for the approach to the bridge, with additional

landscaping supplementing the separation of pedestrians/cycles from the vehicle lanes. A roundabout at Oakleigh Ave will permit access from the east whilst the existing junction (subject to slight realignment) at Great South Road permits access from the west. Further landscape buffers/embankments are shown north and south of the alignment. The extensive proposed landscape buffers are different to the other design treatments in NoR 1 and NoR 2 that offer more 'hard edged' indicative design solutions mitigated with indicative soft landscape strips. Whilst I have some sympathy with the approach indicated in terms of its potential aesthetic benefits, I do not know the reason for this approach and note that some submitters (Nor 1 #32) have suggested a harder edge, less extensive in terms of land take, would be beneficial. Subject to the confirmation of the NoR's I therefore recommend the proposed design approach be reassessed to determine the objective benefits of the bespoke approach compared with the more standard approach to similar crossings provision elsewhere.

Principle	Application to Manuia Road
1.1 **Support and enhance ecological corridors and biodiversity**	The UDE notes *There is opportunity for ecological improvements along the southern edge of the proposed bridge, particularly west of the rail line and the existing Manuia Road. These parcels are of a size and shape that could provide planting or open space opportunities* I can appreciate the betterment opportunity suggested by this approach and support it in principle. Further investigation, however, should be carefully compared against other options that may preserve more active commercial use of the land to the north of Manuia Road. I agree that this process can be guided by the ULDMP.
1.2 **Support water conservation and enhance water quality in a watershed**	The UDE highlights *the stormwater treatment device has been proposed on the eastern side of the Project area. Further refinement of the stormwater device's configuration and arrangement during future design stages is recommended to define the final form and interface with the surrounding land uses. For example, edges may be configured in a naturally shaped manner and fully integrated with existing natural drainage features and vegetation.* I agree with this approach in principle but recommend in the detailed development stage active engagement with the residents of Portrush Lane is undertaken. I am aware of submissions (NoR 1 #45) made with respect to the location of the stormwater device and suggest consultation is undertaken to ensure a reconciled design solution.
1.3	The UDE notes that the *project alignment does not follow the existing corridor alignment or the existing urban structure. The proposed alignment bisects*

Principle	Application to Manuia Road
Minimise land disturbance, conserve resources and materials	*industrial land parcels resulting in land either side of the project area post construction.* The proposed bridge shows embankments on either side. *It is recommended that wrap back retaining walls are used where appropriate instead of embankments. This will minimise the extent of earthworks needed and allow the reintegration and redevelopment of land post construction to support adjacent land use.* I agree with this recommendation and consider such an approach could assist with redressing some submitter concerns and provide a durable long term urban design solution.
1.4 **Adapt to a changing climate and respond to the microclimatic factors of each area**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. In this context, however, the more extensive landscape treatments indicated could conceivably positively contribute to the microclimatic conditions particularly relevant to the residential/commercial interface south of the crossing alignment. This matter however should be assessed in more detail and weighed up against other potentially competing demands of reusing land for more active commercial use. Proposed condition 3 in respect of Land Use Integration will provide the opportunity for this.
2.1 **Identity and place**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. An example of an identity driver highlighted by the UDE is the local centre and Challen Close Park. I agree with this assessment.
2.2 **Respect culturally significant sites and landscapes**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. The Manuia Road area is not identified as offering any inherent cultural or historical significance, and I do not therefore consider the outline works will have any adverse effects on this principle. I acknowledge in general terms however the significance of the wider area and the provision within the UDLMP to engage with Manawhenua.
2.3 **Adaptive corridors**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. The design of the new connection provides for a range of modes with vehicles, cycles and pedestrians catered for. Whilst at high level of concept design, the route will cater for larger vehicles diverted from the Spartan Road area, and it is important therefore that the roundabout design is suitable to accommodate those movements that does not compromise adjacent pedestrian or cycle movement or perceived safety.

Principle	Application to Manuia Road
	As this relates to land use integration, I suggest a further under 3D(i) be made with specific regard to access both during and post construction.
2.4 **Social cohesion**	The UDE highlights the *benefits of enhanced local connectivity and cross corridor access. As discussed above, further development at detailed design stages should be undertaken for crossing points, including:* ○ *Prioritised active modes crossings at the intersection with Great South Road to enable connectivity around the local centre; and* ○ *Prioritised active modes crossings at the proposed roundabout on Oakleigh Avenue. Use* appropriate set back of crossing points to enable user safety and comfort. I agree with these recommendations. The potential reuse for the land parcel north of the local centre and south of the bridge alignment is highlighted as a possible area for an open space. I agree that this is a concept worthy of further analysis but suggest that this is assessed also against the desirability of re-establishing commercial use. The analysis of any open space function, longer term maintenance will need to be considered and advised upon by the relevant council department.
2.5 **Safety**	The UDE highlights that *at future design stages the land post construction on both sides of the rail line, including the proposed embankment areas would require CPTED review. Specifically, the existing Manuia Road which has limited street address and passive surveillance. Future design considerations should respond to and incorporate CPTED principles, including clear sightlines, appropriate planting, good levels of lighting and passive surveillance to mitigate entrapment zones.* I agree and support this recommendation.
3.1 **Align corridors with density**	The UDE considers that future design *stages should consider the use of retaining walls where appropriate alongside the bridge (instead of embankments) to maximise future development within walkable distance to the station*. Whilst I acknowledge this recommendation, given earlier comments on 'social cohesion' this recommendation should be assessed alongside the potential use of part of the area as open space.
3.2 **Corridor scaled to the surrounding context and urban structure**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. The scale and, in particular, height of the bridge makes the proposal poorly scaled in terms of its relationship to the existing residential areas. The north side that comprises industrial uses and generally larger buildings set within larger yards, and so are less sensitive to the effects of the proposal. Whilst these interface issues with residential areas are suggested to be mitigated to some degree by the planned future environment (that may enable taller buildings via PC 78) my experience of redevelopment in the existing THAB zone

Principle	Application to Manuia Road
	suggests terraced housing is more usually built which retains a domestic architectural scale similar to the existing building stock. Irrespective of the directions and 'enabling' role of zone changes, commercial and other planning factors (such as effects to the existing environment of massing and shading) often lead to development outcomes less dense than allowed for within the zone. Whilst I acknowledge the necessary height for the crossing and all that is likely to entail, I do not consider that the corridor can be contextually scaled to the neighboring residential environment. Likely physical effects are therefore adverse in urban design terms.
3.3 **Facilitate an appropriate interface between place and movement**	The UDE identifies *that areas within the project area will require future detailed design analysis, including:* ○ *the access lane (Manuia Road) environment and how this interfaces with and connects to the adjacent residential block; and* ○ *the retained interface between the proposed bridge and adjacent industrial and residential land, including any visual or landscape buffers and development controls such as setbacks.* *A landscape response is recommended as an interface between the project area and the residential blocks to the south. These will ideally act as a buffer, providing visual screening, amenity and the softening of hardscape surfaces and materials.* I agree with this recommendation. The UDE also notes that *The area between the proposed bridge and existing Manuia Road is not suitable for future development but has the potential for open space functions.* I do not agree that the present outline design is certain enough to discount any possible advantage of retained commercial use. I therefore recommend that the interface and reuse of land should be considered (subject to NoR) confirmation at a later design stage in consultation with landowners consistent with the proposed Land Integration condition.
4.1 **Connect nodes**	The UDE identifies that *the project area connects the future Great South Road FTN and employment lands at the Takaanini industrial area.* I agree with this assessment but note that the connection for vehicles is provided to compensate for the closure of the Spartan Road connection.
4.2 **Connect modes**	The UDE notes that *detailed development of active mode connections into the existing network on Great South Road and Oakleigh Avenue will be required at future design stages.* I agree with this but I am concerned that the implementation of the works will compromise the operation of certain businesses not contained within the defined NoR area of works. Submissions raised in NoR 1 #12 suggest that the provisions

Principle	Application to Manuia Road
	regarding access to 33 Oakleigh Road could render the business landlocked. The property does not appear to have been assessed in terms of transport effects. In terms of optimizing connections and achieving a resilient design solution, overall access to businesses tangentially affected will require resolution in any future design stage. Proposed condition 9 should cater for this suitably.
4.3 **Support access to employment and industry**	The UDE notes that *the project area provides connectivity and efficient localised movement to the light and heavy industrial area to the north from Great South Road FTN.* I accept this assessment but refer to the previous point regarding access to properties outside of the project area but that appear to be directly affected by works.
4.4 **Prioritise active modes and public transport**	The UDE identifies that *there are potential priority conflicts between active modes and the ongoing freight and industrial functions of the project area, especially at the intersections with Great South Road and Oakleigh Avenue. These should be further identified and addressed in future design stages of the Project.* I agree with this assessment and recommendation.
4.5 **Support inter-regional connections and strategic infrastructure**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. In this sense, the benefits to the future expansion of rail services is highlighted. I agree that the proposal will support future rail expansion.
4.6 **Support legible corridor function**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. In this sense, the benefits of the indicative design approach and clear segregation of movement modes are highlighted. I agree with this, and also consider that the alignment corridor does offer a clear and legible connection in urban design terms.
5.1 **Public transport directed and integrated into centres**	The UDE states that *this principle is not directly relevant to the Manuia Road project area.* I agree with this assessment.
5.2 Strategic corridors as urban edges	The UDE identifies that *the project area is well aligned as a land use edge, predominately defining the boundary between the Takaanini industrial area to the north and residential land to the south. This is ideally located to minimise the impact and disturbance to existing urban form and separate industrial and residential land uses, while providing efficient connectivity for freight movement*

Principle	Application to Manuia Road
	into the industrial area. However, the project area does intersect with a small area of industrial land use, resulting in a smaller industrial parcel to the southeast. Further development of the design would need to consider: ○ *Ensuring an appropriate interface and buffer between industrial and residential land uses, including but not limited to the minimum planted strip required by Auckland Council zoning policies;* ○ *Provision of separated access for both the industrial and residential uses; and* ○ *Orientation of future development to minimise visual impact.* *There is the opportunity for this isolated parcel of industrial land use to be reintegrated in the future as part of the wider residential block.* I agree with this assessment albeit note that reuse of the 'orphaned' industrial block would require a separate plan change. This is an area that may be properly assessment via the proposed condition 3 relating to land integration.

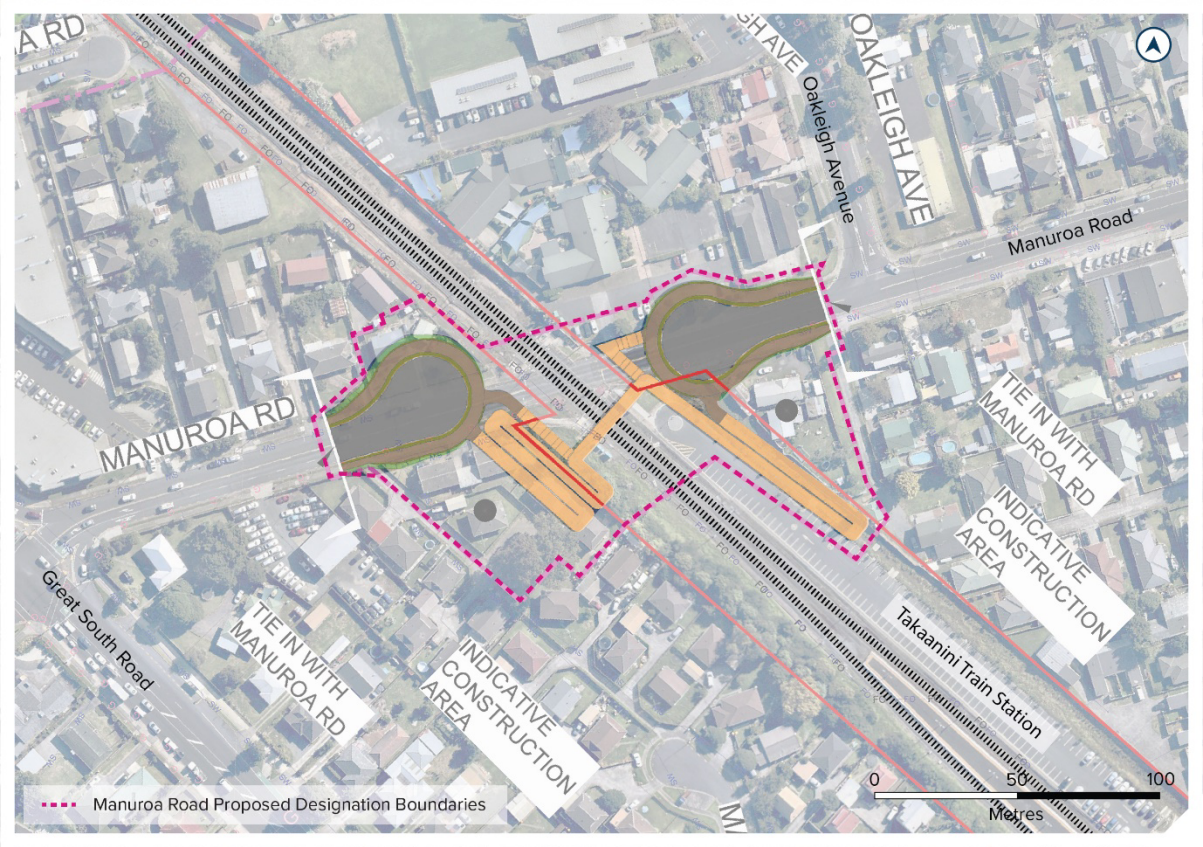
4.3.3 In conclusion, the assessment conducted has provided valuable insights and recommendations across various principles aimed at guiding the proposed development project in the Manuia Road area. Regarding the support and enhancement of ecological corridors and biodiversity, there is acknowledgment of the potential for ecological improvements along the proposed bridge's southern edge, suggesting opportunities for planting or open space initiatives. While supporting this approach in principle, it is recommended that further investigation compares it with alternatives that may preserve active commercial land use. Similarly, the assessment highlights the importance of water conservation and water quality enhancement, suggesting refinement of stormwater treatment devices to integrate with surrounding land uses. Active engagement with residents is recommended during detailed development stages to address concerns regarding stormwater device locations.

4.3.4 The assessment also addresses principles related to identity and place, safety, social cohesion, and access to employment and industry, providing recommendations for enhancing local connectivity, active mode crossings, and mitigating adverse effects on residential areas. Whilst I have some concerns regarding the scale of the crossing relative to the residential environment in particular the indicative setbacks provide some comfort that subject to further detailed design possible adverse urban design effects may be managed successfully.

4.4 Manuroa Road – overview

The key features of the Manuroa Road outline proposal are:

- Closure of the existing road corridor to vehicular traffic across the NIMT.
- Construction of an active mode bridge across the NIMT.
- Construction of cul-de-sacs (accommodating footpaths) and works to tie into the existing corridor on either side of the NIMT along Manuroa Road.
- Ramps and stairs will connect to the bridge on either side (east and west) of the NIMT and will tie into the cul-de-sacs.



Above: Plan from the UDE showing proposal in context.

4.4.1 Assessment

The project area is located in an established residential area incorporating small scale commercial and retail businesses. A cluster of childcare services are evident in the immediate area, including the 'Best Start' business adjacent to and east to the rail corridor. Small scale convenience retail is located on the corners of Princess St and Manuroa Road. The street character environment is generally consistent east and west of the rail line, comprising footpaths on either side of the road with front and rear grass berms. There are no street trees, but mature trees in front gardens are evident and

contribute to the visual character of the street. In this context, two Notable English Oak trees will be close to the proposed access ramps located at 15 Manuroa Road. Front boundary treatments are varied in material treatments, but frequently comprise close boarded timber fences between 1.2 m and 1.5 m in height. The built form mostly consists of single storey hipped roof dwellings that are set back from the front boundary by 5 – 10 m. Some commercial activities such as the Best Start childcare centre feature more extensive building setbacks to accommodate on-site parking. Access to the Takaanini Rail Station is also possible via the car park that terminates in a turning head adjacent to Manuroa Road.

4.4.2 With respect to likely future development in the area, the UDE states the area is affected by the Proposed Plan Change 78 and this will enable higher density and taller buildings through the area.

4.4.3 The landscape and visual effects assessment for Manuroa Road considers the area will sustain moderate effects by the proposal, reducing to low moderate following mitigation works.

4.4.4 With respect to proposed works, it is anticipated that the roads leading to the rail crossing will be terminated by a cul-de-sac head with shared pedestrian/cycle path crossing over the rail line. The height of the crossing area will be 7.8 m minimum to provide for a safe crossing height. The outline proposal for the crossing shows extensive ramped paths as well as more direct stepped paths to achieve the required height for safe crossing. Whilst I appreciate the objective of the design in terms of accessibility objectives, the length of ramps seems to be excessive as illustrated and I encourage via the ULDMP the design of a more compact footprint solution that avoids very long 'switch back' ramps. I am also mindful that any solution will need to integrate successfully with the adjacent land uses and accommodate the practical servicing and operational demands of businesses including access to parking areas. It is very important a proper understanding of access requirements is incorporated into any design solution.

Principle	Application to Manuroa Road
1.1	The UDE highlights that *there is an opportunity to provide a landscape response that integrates with the existing tree line along the western boundary of the rail line.*

Principle	Application to Manuroa Road
Support and enhance ecological corridors and biodiversity	I agree with this identified opportunity.
1.2 **Support water conservation and enhance water quality in a watershed**	The UDE identifies *the existing swale and culvert along the park and ride. At future design stages, consider additional planting opportunities to enhance the swale and support better water quality.* I agree with this recommendation and suggest that investigating an opportunity for a pedestrian path to the station platform from the Manuroa Road should also be considered to provide for enhanced pedestrian connectivity. This may be addressed via proposed ULDMP.
1.3 **Minimise land disturbance, conserve resources and materials**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. In this sense, the UDE recommends that the impacts of hard engineering and extent of ramps should be minimized through detailed design. I agree with this recommendation.
1.4 **Adapt to a changing climate and respond to the microclimatic factors of each area**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. It is evident from the UDE Outcomes and Opportunities (Fig 11) annotated schematic that residual land parcels adjacent to the ramp structures may be suitable for enhancement planting. I agree with this recommendation and consider that such measures could offer general enhancement to the residential character.
2.1 **Identity and place**	The UDE notes that future design considerations for the project area should have an integrated identity with the Takaanini Train Station such as materiality, signage and other design elements. I agree with this recommendation in part but consider that the residential character of the area is more indicative of the sense of place overall than the rail station. Whilst I acknowledge the necessity for way finding purposes of integrating the design with the station I recommend, insofar as it will be possible, to maintain a domestic residential character and scale to the detailed design.
2.2 **Respect culturally significant sites and landscapes**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. The Manuroa Road area is not identified as offering any inherent cultural or historical significance, and I do not therefore consider the outline works will have any adverse effects on this principle. I acknowledge in general terms however the significance of the wider area and the provision within the UDLMP to engage with Manawhenua.

Principle	Application to Manuroa Road
2.3 **Adaptive corridors**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. The Manuroa Road proposal offers limited flexibility owing to the proposed closure of the road connection. The Manuroa Road connection cannot be regarded in my opinion as offering an adaptive corridor solution.
2.4 **Social cohesion**	The UDE highlights the various social and community functions that exist in the area. It is further stated that the east west connections are maintained for pedestrians and cyclists and that enhanced landscape outcomes may present as an element of the integrated design. I acknowledge these points but would highlight the operational concerns voiced by the childcare operators in respect of 'drop off' and 'pick up'. This aspect requires consideration in the detailed design stage via proposed conditions 3 and 9.
2.5 **Safety**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. Important considerations such as spatial arrangement and CPTED matters are recommended to be assessed and addressed as a part of future design development. I agree with this recommendation.
3.1 **Align corridors with density**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. Contextually, the area's proximity to rail services may present some influence on future urban intensification.
3.2 **Corridor scaled to the surrounding context and urban structure**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. Whilst the likely physical scale of the crossing is larger than the existing built character I do not consider it likely to be totally incompatible with the existing built form and the development framework of the existing zoning (Mixed Housing Suburban and Mixed Housing Urban zones). Further to this, I consider longer term mitigation effects of tree planting would further manage any negative visual effects of the bridge structure. I consider therefore that whilst the outline project will result in a change of scale, it is not necessarily incompatible with the existing environment.
3.3 **Facilitate an appropriate interface**	The UDE notes that *further consideration and refinement of the crossing configuration, including any stairs/ramps/elevators, is needed. This is to ensure that it provides an appropriate public/private interface into the*

Principle	Application to Manuroa Road
between place and movement	*surrounding residential area, particularly where accessways border or overlook property boundaries.* I agree with this recommendation.
4.1 **Connect nodes**	The UDE notes that *the project area provides direct access to the northern end of the existing Takaanini Train Station park and ride. Future design stages should:* • *provide legible connectivity for active mode users to and from the station. This could include appropriate wayfinding and signage, visual cues and clear sightlines; and* • *consider interface opportunities that integrate the project area and any future masterplan for the station.* I agree with these recommendations.
4.2 **Connect modes**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. Whilst the proposal will maintain and to some degree potentially enhance cycle and pedestrian movement it will result in severance of vehicle movements. I consider a reduction in block permeability should be regarded as an adverse urban design effect.
4.3 **Support access to employment and industry**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. Similar to the above whilst pedestrian and cyclist access will be delivered east west vehicle access for those requiring it will be removed and diverted to the alternative routes.
4.4 **Prioritise active modes and public transport**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. In this sense the proposal align well with the desired modal priority.
4.5 **Support inter-regional connections and strategic infrastructure**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. In this respect the proposal will accommodate the future expansion of the rail line.
4.6 **Support legible corridor function**	The UDE notes that *the proposed ramp arrangements at Spartan and Manuroa Road extends distance of travel for active mode users and does not provide a direct desire line. Future design stages should consider alternative arrangements that provide a shorter, and more direct, convenient, and legible connection.*

Principle	Application to Manuroa Road
	Further resolution of entry points and spatial arrangement of any stairs, elevators and ramps, is needed at future design stages. This could consider visual clearance and sightlines towards entry points, as well as visual cues and wayfinding signage to aid legibility. I agree with these recommendations.
5.1 **Public transport directed and integrated into centres**	This principle is not directly relevant to the Manuroa Road project area
5.2 **Strategic corridors as urban edges**	This principle is not directly relevant to the Manuroa Road project area

4.4.5 In conclusion, the assessment of the proposed development project along Manuroa Road has provided valuable insights and recommendations across various principles aimed at ensuring the project's alignment with ecological, social, and urban design considerations. The assessment recognizes opportunities to support and enhance ecological corridors and biodiversity, such as integrating landscape responses with existing treelines and enhancing water conservation efforts through additional planting opportunities. Recommendations also emphasize minimizing land disturbance and conserving resources, as well as adapting to a changing climate by considering residual land parcels for enhancement planting. I support each of these recommendations.

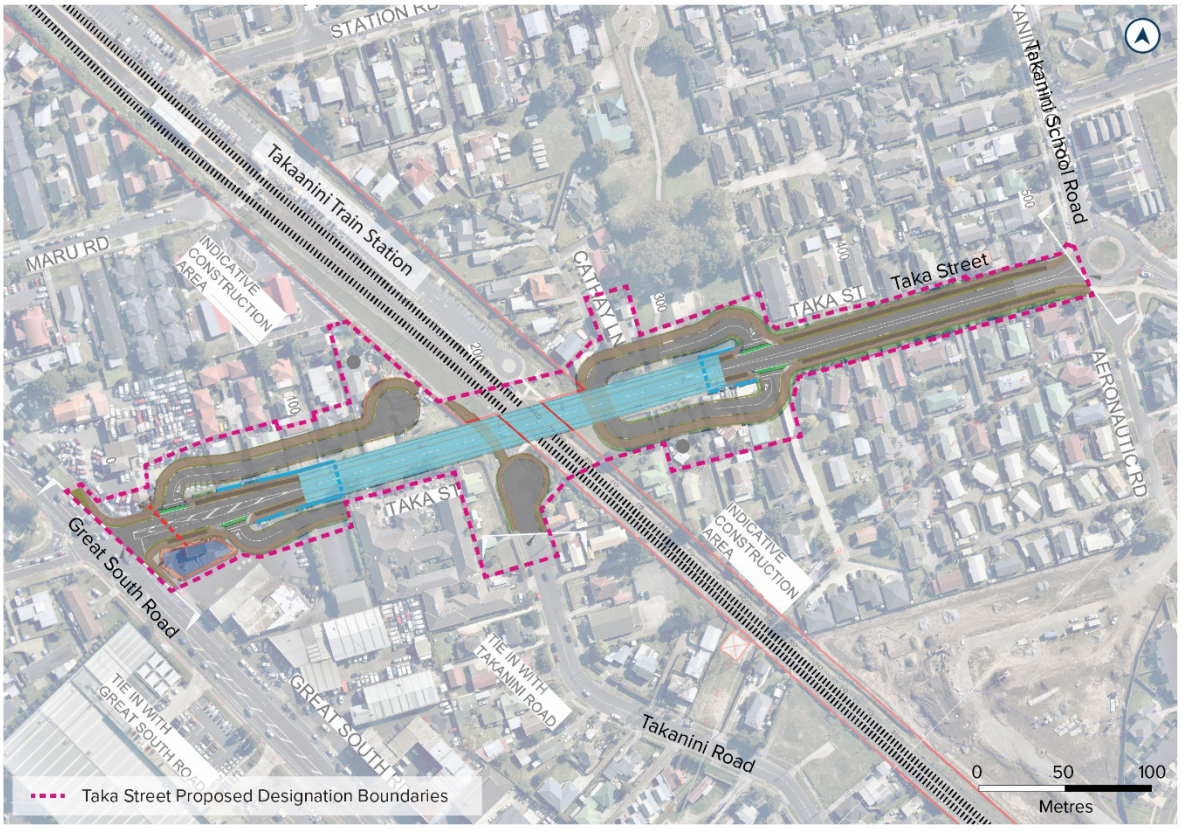
4.4.6 Regarding identity and place, there is acknowledgment of the importance of integrating design elements with the Takaanini Train Station while maintaining the area's residential character. Additionally, considerations for social cohesion, safety, and connectivity are highlighted, with recommendations for improved pedestrian access and interface configurations. While some principles such as aligning corridors with density and supporting access to employment and industry are noted, the assessment suggests further exploration of how the project can facilitate appropriate interfaces between place and movement, enhance legible corridor functions, and prioritize active modes and public transport. In terms of future design stages, it is recommended to refine crossing configurations, provide legible connectivity for active mode users, and consider alternative arrangements to optimize convenience and legibility. Overall, by

incorporating these recommendations, the Manuroa Road outline proposal can in my opinion achieve safe access and acceptable urban design outcomes.

4.5 Taka Street - overview

The key features of the Taka Street outline proposal are:

- Construction of an arterial road bridge across the NIMT accommodating two vehicle lanes (one in each direction) and separated active mode facilities.
- Construction of arterial road corridors tying into either side of the bridge and existing intersections (east and west of the NIMT). The corridors will accommodate two vehicle lanes (one in each direction) and separated active mode facilities.
- Construction of new access roads for affected properties either side of the rail line.



Above: Plan from the UDE showing proposal in context.

4.5.1 Assessment

The project area east of the rail line terminating at Takaanini School Road is entirely composed of single storey detached dwellings and the attractive Takanini Reserve that connects Taka Street with Station Road. West of the rail line further residential units are mixed with commercial activities including the Takanini Care Centre, child care centre,

the Z service station and opposing Takanini LDV car dealership that form the corner with Great South Road.

4.5.2 The street character environment is generally consistent east and west of the rail line, comprising footpaths on either side of the road with front and rear grass berms. Public realm trees are limited to those in the Takaanini Reserve and those trees largely coincident with the Care Centre frontage (identified as trees 9-12 in the applicants Assessment of Arboricultural Effects). Mature trees in front gardens are also evident however and contribute to the visual character of the street. Whilst contributing to visual character and in some cases contained within the designation, these trees have not been assessed for value in the applicants Assessment of Arboricultural Effects. Front boundary treatments are varied in materials, but frequently comprise close boarded timber fences between 1.2 m and 1.5 m in height. The built form mostly consists of single storey hipped roof dwellings that are set back from the front boundary by 5 – 10 m. Some commercial activities such as the Amber Early Learning centre and Takanini Care Centre feature more extensive building setbacks to accommodate on-site parking. The Z service station and Takanini LDV car dealership also have extensive service areas adjacent to the street frontage. Access to Takanini Rail Station is also possible via the station car park that terminates in a turning head adjacent to Taka Street.

4.5.3 With respect to likely future development in the area, the UDE states the area is affected by the Proposed Plan Change 78 and that this will enable higher density and taller buildings through the area.

4.5.4 The landscape and visual effects assessment for Taka St considers the area will sustain moderate to high visual effects by the proposal, and these are adverse in nature.

4.5.5 Because of the established residential environment, the outline proposal is complex. The corridor on approach to the bridge consists of two lanes of vehicles separated by a central median with planted front berm and segregated cycle and pedestrian paths with a small rear berm meeting the adjacent property frontage. The bridge retains the movement corridors for cyclists, pedestrians, and cars. The proximity of residential dwellings means that the route will necessitate land take to form new access roads to properties. In essence, these consist of a loop road that connects underneath the bridge east of the

rail line and slip lanes west of the rail line. It is also proposed to form a cul-de-sac head terminating Takanini Road with pedestrian and cycle connection under the bridge.

4.5.6 The extent of physical works is therefore significant and will result in a high degree of change for the residents and businesses operating in the project area. Whilst at a high level of concept design there are aspects of the design that raise significant urban design concerns with respect to legibility, CPTED matters and adverse scale and massing effects. I discuss these matters in the assessment table below.

Principle	Application to Taka Street
1.1 Support and enhance ecological corridors and biodiversity	The UDE notes that *the proposed eastern access lane interfaces with the Takanini Reserve. In future design stages consider an appropriate landscape response that integrates with the reserve and identifies opportunities for restoration and enhancement.* The alignment of the loop road will result in the loss of a group of mature trees. Whilst I accept that future planting may in the longer term provide an opportunity for enhancement, the proposal as it stands cannot be regarded in my opinion as supporting and enhancing ecological corridors and biodiversity. Broader consideration of this principle (see Appendix A UDE) suggests that the proposal does not: • Preserve the biosphere nor provide for continuity of natural systems. • Contribute to the legibility of the area by increasing community connection to natural habitats.
1.2 Support water conservation and enhance water quality in a watershed	The UDE notes that *a stormwater treatment device is proposed on the western intersection with Great South Road. Future design stages should demonstrate an appropriate interface and integration with the surrounding context and amenity.* I agree with this recommendation and consider it consistent with the outcomes envisage by this principle.
1.3 Minimise land disturbance, conserve resources and materials	The UDE notes that *the project area demonstrates a generally efficient alignment utilising the existing at grade crossing and road reserve of Taka Street. However, there is still impact on the adjacent area resulting in land post construction that will require reintegration.* I agree with this recommendation but consider that even at concept design stage there are concerns regarding the extent of disturbance necessary by forming the corridor/bridge connection. The extensive slip and loop road construction result in significant additional land take and creation of hard surface areas that potentially cannot be mitigated by detailed design.

Principle	Application to Taka Street
1.4 **Adapt to a changing climate and respond to the microclimatic factors of each area**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area noting that the project area supports additional tree planting and will also result *in 'naturalised stormwater treatment'*. I acknowledge these are positive elements that require balancing against the less positive outcomes of the proposal relative to this principle. In my opinion, these are likely to include the negative impacts of the massing and scale of the bridge and road corridor to the residentially scaled (1 – 3 storey) environment.
2.1 **Identity and place**	The UDE notes that *the project area should respond to the existing and future amenity values of the Takaanini Train Station and Takanini Reserve.* *Future design considerations for the project area should have an integrated identity with the Takaanini Train Station and Takanini Reserve such as materiality, signage and other design elements.* I agree with these recommendations but in the context of the design principle the proposal will not in my opinion: • Support social cohesion or sense of belonging. • Respect or enhance the sense of identity. • Preserve amenity values. • Contribute to placemaking. The extent of physical intervention, layout design and vertical scale and massing will result in adverse urban design effects under this principle.
2.2 **Respect culturally significant sites and landscapes**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. The Taka Road area is not identified as offering any inherent cultural or historical significance, and I do not therefore consider the outline works will have any adverse effects on this principle. I acknowledge in general terms however the significance of the wider area and the provision within the UDLMP to engage with Manawhenua.
2.3 **Adaptive corridors**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area, noting: • *The proposed cross-section provides space for all modes.* • *The proposed typical cross-section has the spatial provisions to be flexible, re-configurable and adaptable for changing transport needs. For example, future bus priority measures and future expansion of any walking and cycling networks can be accommodated within the designation.* • *There is flexibility and spatial provisions within each of the designation boundaries to respond to future interfaces and provide for non-transport functions. For example, ecological response, water management or*

Principle	Application to Taka Street
	community functions that deliver a positive contribution to sense of belonging and place context. I agree that the outline proposal does offer defined routes for a variety of transport modes, but there does not appear to be the flexibility in the design suggested. The designed width of the bridge crossing is a limiting factor in providing any expansion beyond that planned for in the outline plan. It would be helpful if the applicant can explain at the Hearing how the outline proposal provides for design 'flexibility'.
2.4 **Social cohesion**	The UDE notes that *the proposed crossing compromises direct accessibility to Takaanini Train Station and Takanini Reserve. Future design stages should provide clear, effective and legible connectivity for active modes between these two amenities and Taka Street. Consider appropriate wayfinding, signage and landscape design to support and strengthen this connection.* *Takaanini Hall is a key community asset. Consider the opportunity to connect Takaanini Hall to Takaanini Train Station through a clear and legible active modes path.* *There is opportunity to extend the Takanini Reserve and support the connection through to Takaanini Train Station through the reintegration of the land post construction on Cathay Lane.* *To enable equitable local connectivity and cross corridor access further development at future design stages should be undertaken for crossing points and potential midblock crossings. This includes:* ○ *Prioritised active modes crossings at intersections with Great South Road, Kauri Heart Avenue and adjoining access lanes; and* ○ *Prioritised active modes mid-block crossing between proposed bridge and Kauri Heart Avenue to enable user safety and support a legible connection to/from Takaanini Train Station and reserve.* I agree that the recommendations are positive responses to the challenges presented by the outline design solution. These are however mitigations to a solution that does not fully meet the envisaged outcomes for the principle, specifically the proposal does not: • Deliver a positive contribution to the sense of belonging and community resilience. The effects to numerous residences and commercial activities such as the Takanini Care Centre and Early child care facilities are significant and adverse. • Does not establish and support a positive spatial relationship to the grain of future development.
2.5 **Safety**	The UDE notes that *the unresolved land post construction adjacent to the rail line and under the bridge could result in potential CPTED issues. Further resolution of the spatial arrangement is needed in future design stages in order to provide a*

Principle	Application to Taka Street
	legible and safe connection between Taka Street and Takaanini Train Station. Things to consider include: ○ *Application of CPTED principles;* ○ *Arrangement and position of retaining walls/abutments and planting to enable clear sightlines and reduce non-functional spaces;* ○ *Public/private interface response; and* ○ *Appropriate landscape response.* *There is the opportunity to extend vehicular access under the bridge by connecting the north western access lane to Takanini Road and the access lane loop to the Takaanini Train Station. This could support functionality and passive surveillance in these spaces.* I agree the outline design presents significant CPTED concerns, principally derived from the scale and massing of the bridge and the indicative connections under the bridge structure. Whilst I recognize that some of these adverse effects may be mitigated by the measures proposed, I consider the design approach to have inherent shortcomings in terms of the application of the 'safe corridors' design principle. Specifically: • The design will not promote a sense of personal safety.
3.1 **Align corridors with density**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area, stating: *The project areas will provide a core transport function as east-west connectors in the Takaanini area, supporting the requirements of the NPS-UD and the MDRS. This includes supporting increased development capacity within a walkable catchment of Takaanini Train Station* *Through enabling key connections to the Takaanini Train Station and the wider existing active modes network, the project areas support modal shift and provide a positive contribution to the vibrancy and activation of the varied urban environments within the Takaanini area.* I acknowledge that the outline plan will support connectivity and enable a variety of movement modes. I do not understand and therefore accept, however, how the proposal is likely to result in a positive influence on the vibrancy of the area. It would be helpful if the the applicant could demonstrate at the Hearing how the outline design will promote vibrancy.
3.2 **Corridor scaled to the surrounding context and urban structure**	The UDE notes that *the surrounding context of the project area which includes a neighbourhood park (Takanini Reserve), care home and local community amenities, is particularly sensitive to the scale of the crossing structure. Careful consideration is required to minimise the impact of the crossing and provide an appropriate transition to adjacent residential development. Considerations could include:* ○ *Size and scale of structural elements;*

Principle	Application to Taka Street
	○ *Visual screening;* ○ *Materiality; and* ○ *Landscape response.* I agree with these concerns but remain unconvinced on the basis of available information that the design can be adequately mitigated by design and that severe adverse urban design effects on the amenity of the surrounding area will not result. I have noted the emphasis in assessment reports of the significance of the PC78 and possible influence rezoning may have on future built form and therefore the scale of infrastructure compared to the scale of the future built form. As previously stated in this memorandum, in my experience even given the possible change to zoning the likely development outcomes will not result in taller and bulkier buildings throughout the neighbouring area. Practical matters such as land assembly, market desirability of the location and planning matters such as access and neighbouring effects will all influence the development forms to a degree where a six storey development context is unlikely to result. The existing zoning contemplates a 2 and 3 storey built form context and I regard this as more likely to continue with perhaps a few sites featuring taller buildings. In this context the scale and massing effects of the bridge will remain significant. In terms of this principle, I consider that the adverse urban design effects are likely to result.
3.3 **Facilitate an appropriate interface between place and movement**	The UDE notes that *the project area interfaces with several different land uses, both public and private but predominantly residential. Future design stages need to consider an appropriate design response between the following:* ○ *The access lane and Takanini Reserve;* ○ *Connection between the Takaanini Station and the Takanini Reserve;* ○ *Access lanes and residential properties; and* ○ *Access lanes and bridging structures* *It is recommended that a landscape response (discussed within the TLC overall network) is considered to address the interfaces identified above.* *There is spatial allowance to provide an appropriate interface between the care home and bridge post construction. This could include a landscape response or reinstatement of their carparking/circulation space.* I consider these relevant areas for focus should the NoR be accepted but considering the proposal in light of the design principle the outline project does not in my opinion meet the stated outcomes of: • Providing an opportunity for people orientated streets with potential for public spaces. • Promote social cohesion and economic benefit for local businesses.
4.1 **Connect nodes**	The UDE notes that *the project area connects the future Great South Road FTN to key community amenities such as Takaanini Train Station, Takanini Reserve and future residential development.*

Principle	Application to Taka Street
	There is opportunity to provide active modes connectivity between Takaanini Hall and Takaanini Train Station. I agree with the importance of developing active mode connectivity but the ability to do so in an attractive and safe manner will be compromised by the bridge. Connectivity will therefore either be directed beneath the bridge structure or around. Neither route in high level urban design terms seems likely to deliver a positive experience for the pedestrian/cyclist.
4.2 **Connect modes**	The UDE notes that *detailed development of active mode connections into the existing network on Great South Road and Takanini School Road/Kauri Heart Avenue is required at future design stages.* I agree with this recommendation but would add that given the principle references the importance of connectivity at interchanges the entry and exit point to the Takaanini station from Manuroa Road and Taka St should also be considered under this heading.
4.3 **Support access to employment and industry**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area noting: *The project areas support tangible east-west accessibility to areas of employment and industry within Takaanini. This includes the Takanini Town Centre, multiple industrial land use zones, neighbourhood centres, and future development areas that support employment.* I agree with this in a general sense but note that the physical effects of the outline works will have a temporary and likely full time effect on some commercial activities on Taka St.
4.4 **Prioritise active modes and public transport**	The UDE notes that *this project area supports the wider active mode network by providing connectivity to existing facilities on Great South Road and Kauri Heart Avenue, which are identified within the future network under AT's Future Connect. It also provides a direct and legible connection through to Walter Stevens Drive also identified by Future Connect as a proposed cycle facility.* I agree with this assessment.
4.5 **Support inter-regional connections and strategic infrastructure**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. In this respect I acknowledge that the proposal will accommodate the future expansion of the rail line.
4.6 **Support legible corridor function**	The UDE notes that *the access lanes provide a gateway to the Takaanini Train Station and Takanini Reserve. Future design stages should consider the extension of the active modes pathways into these areas. Wayfinding and*

Principle	Application to Taka Street
	signage features will be important to support this connection as these destinations will no longer directly address Taka Street. I acknowledge this assessment but consider that the access lane arrangement offers a less legible connection than the present street arrangement. The effects of the bridge therefore compromises the legibility and quality of connection to Takanini Reserve and Train Station.
5.1 Public transport directed and integrated into centres	This principle is not directly relevant to the Taka Street project area
5.2 Strategic corridors as urban edges	This principle is not directly relevant to the Taka Street project area

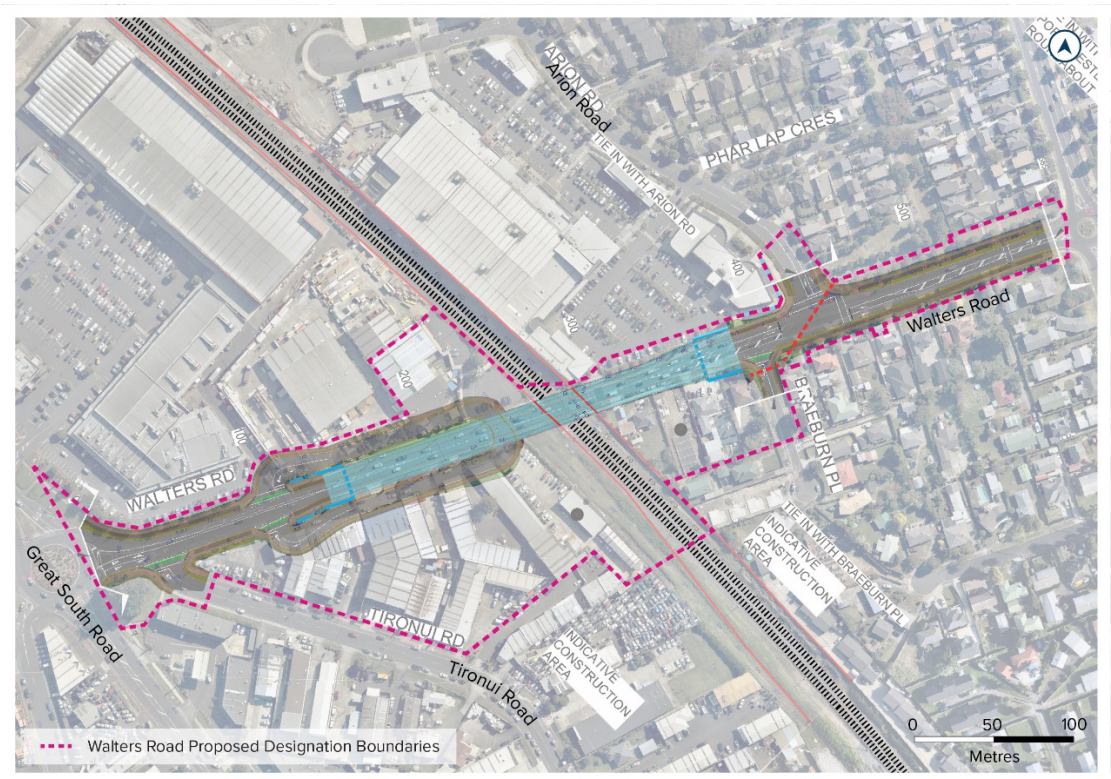
4.5.7 In conclusion, the assessment of the proposed development project along Taka Street reveals a range of considerations and recommendations across various principles of urban design and environmental sustainability. While there are positive aspects to the proposal, such as the potential for future tree planting and naturalized stormwater treatment, several key concerns have been identified. These include the loss of mature trees impacting ecological corridors and biodiversity, the adverse effects on social cohesion and sense of place due to the scale and massing of the proposed structures, and potential compromise to pedestrian and cyclist safety due to the design of some connections.

4.5.8 Additionally, the assessment raises doubts about the ability of the proposal to align with density, scale appropriately with the surrounding urban context, and facilitate an appropriate interface between place and movement. Concerns also extend to the impact on local businesses, access to employment and industry, and the legibility of corridor function. While some recommendations for future design stages are acknowledged, such as the need for landscape responses and improved active mode connectivity, the overall conclusion suggests that the current proposal falls short of meeting the desired outcomes for several urban design principles.

4.5.9 In light of these findings, it is imperative that future design stages carefully address the identified shortcomings and prioritize solutions that better align with the principles of social cohesion, and urban livability.

5.0 NoR 2 – Walters Road – overview

- Construction of an arterial road bridge across the NIMT accommodating two vehicle lanes (one in each direction) and separated active mode facilities.
- Construction of arterial road corridors tying into either side of the bridge and existing intersections (east and west of the NIMT). The corridors will accommodate two vehicle lanes (one in each direction) and separated active mode facilities.



5.1 Assessment

The project area east of the rail line terminating at Porchester Road is composed of a mix of older single storey detached dwellings and more recent town house development. The Takanini Town centre defines the edge of the rail line and development block meeting Arion Road. West of the rail line, the built character consists of larger footprint commercial buildings. The limit of the corridor to the west meets the roundabout at Great South Road.

5.1.1 The street character environment differs therefore between the land east of the rail line with that to the west. With respect to the residential character elements, the built form consists of a mixture of single storey detached dwellings with hipped roof forms and more contemporary town houses (at 21 Walters Road). I am also aware from submissions (NoR 2 #10) of further consented medium density residential development. This part of Walters Road features a number of semi-mature trees (25 are identified in the applicants Assessment of Arboricultural Effects) all of which are considered to be in fair to good

condition. In terms of visual amenity the Liquid Amber planted in the reserve provide an attractive edge to this part of the street. Other trees planted in the front yards of dwellings also contribute to the visual character of the street but are not assessed. Front boundary treatments are varied in materials, but frequently comprise close boarded timber fences between 1.2 m and 1.5 m in height. This permits the houses behind to offer some passive surveillance role to the street. The older residential buildings are set back from the front boundary by 5 – 10 m approximately, with the more recent development closer to the front boundary line. Commercial activities are limited on the south side of the street to the Learning Adventures child care centre. The development block between the rail line and Arion Road is occupied by the Takanini Town centre. The edge of the rail line is defined by contemporary commercial buildings, and the corner with Arion Road defined by the Takanini Medical Centre. Both buildings feature pedestrian access from the street and attractive shrub and tree planting to the street. The majority of the street edge between these two buildings is planted with shrubs and trees, behind which is a surface car park area. Access only to the car park is located adjacent to the Medical Centre from Walters Road, with additional access to the town centre from Arion Road.

5.1.2 The visual character west of the rail line is different because of the nature of the commercial uses. Larger footprint and more basic architectural forms are set back from the street edge to varying degrees, with front yard service areas and car parks positioned adjacent to the street front. Front boundary treatments where defined usually comprise open chain link or railing type fences, offering a high degree of visibility to the buildings and yard areas from the street. Suitably scaled yards depending on business activity feature along the street. Street tree planting is sporadic and less of a feature than east of the rail line, but a grouping of smaller and medium-sized trees are evident in the rear berm to the Southgate shops and berm to Carters building supplies (not commented upon in the applicants Assessment of Arboricultural Effects). A mature London Plane tree forms a focal point at the west end of the street (Tree 13 in applicants Assessment of Arboricultural Effects).

5.1.3 With respect to likely future development in the area, the UDE states the area is affected by the Proposed Plan Change 78 and that this will enable higher density (albeit not six storey development) through the area. Present zoning under the AUP(OP) is Business Town Centre, Business Light Industrial, Residential Mixed Housing Urban and Residential Mixed Housing Suburban

5.1.4 The landscape and visual effects assessment for Walters Road distinguishes the different character and sensitivity to change between the west and east. Overall the conclusion is that effects will be of a moderate scale and adverse in nature.

5.1.5 Similar to Taka St and because of the more intensive commercial activity of the area and presence of residential environment, the outline proposal is complex. The corridor on approach to the bridge from the west consists of two lanes (widening to three lanes at the roundabout) of vehicles separated by a central median with planted front berm and segregated cycle and pedestrian paths with a small rear berm meeting the adjacent property frontage. The bridge retains the movement corridors for cyclists, pedestrians, and cars. Slip roads are located either side to service the adjacent commercial buildings, forming a loop under the bridge before the rail line. On the east side of the crossing, the bridge achieves existing grade a little before the junction with Braeburn Place. Pedestrian and cycle paths are proposed on both sides of the road.

5.1.6 The extent of physical works is therefore significant and will result in a high degree of change for the residents and businesses operating in the project area. Whilst at a high level of concept design there are aspects of the design that raise significant urban design concerns with respect to legibility, CPTED matters and adverse scale and massing effects. I discuss these matters in the assessment table below.

Principle	Application to Walters Road
1.1 **Support and enhance ecological corridors and biodiversity**	The UDE notes that *there is an opportunity to provide a landscape response that integrates with the existing open space along the western boundary of the rail line.* I acknowledge and support this opportunity together with the integration of the stormwater features opposite Arion Road and alongside Walters Road.
1.2 **Support water conservation and enhance water quality in a watershed**	The UDE notes that *the project area interfaces with open space on the corner of Arion Road. There is an opportunity here for an integrated stormwater strategy and enhancement of the existing open space.* I acknowledge and support this opportunity.
1.3 **Minimise land disturbance,**	The UDE notes that *the project area demonstrates a generally efficient alignment accommodating the bridge within the existing road reserve of*

Principle	Application to Walters Road
conserve resources and materials	*Walters Road. However, the project area affects a number of large industrial land parcels resulting in land post construction of a significant size and shape. Future reintegration is required to support redevelopment.* I agree the effects of the outline proposal are significant and result in adverse urban design effects. In terms of this principle, I consider the proposal will not work positively towards the creation of a welcoming sense of place.
1.4 **Adapt to a changing climate and respond to the microclimatic factors of each area**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area, noting: *the project areas provide space for street tree planting within the berms that, when delivered, will contribute to the amenity of the area by providing shade and microclimatic cooling qualities. The project areas provide active modes facilities, supports public transport connections and access to public transport facilities (i.e., Takaanini Train Station). This supports modal shift and reduction of transport related climate change contributions.* *Within the designation boundaries there is land post construction that provides opportunity to consider a landscape and/or naturalised stormwater treatment response including amenity planting and water sensitive design elements. This demonstrates contribution to the local climatic environment and urban heat island effects.* These are positive measures in accordance with the principle although the east part of the road in particular already offers these features which may need to be removed to facilitate construction. Medium term adverse urban design effects in the event of removal of existing mature trees will result.
2.1 **Identity and place**	The UDE notes that *the project area should address the existing and future amenity values and urban space qualities of the Takaanini Town Centre. Opportunities should include design elements such as:* • *Appropriate planting;* • *Wayfinding and signage; and* • *Materiality that reflects the town centre qualities.* I agree these are appropriate methods of mitigation but regard the likely effects of the bridge construction will not positively enhance the identity and place indicated by the principle. Specifically, I consider the outline works will not: • Contribute to place making. • Enhance the established identity and form of the area.
2.2 **Respect culturally significant sites and landscapes**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area. The Taka Road area is not identified as offering any inherent cultural or historical significance, and I do not therefore consider the outline works will have any adverse effects on this principle. I

Principle	Application to Walters Road
	acknowledge in general terms however the significance of the wider area and the provision within the UDLMP to engage with Manawhenua.
2.3 **Adaptive corridors**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area, noting: • *The proposed cross-section provides space for all modes.* • *The proposed typical cross-section has the spatial provisions to be flexible, re-configurable and adaptable for changing transport needs. For example, future bus priority measures and future expansion of any walking and cycling networks can be accommodated within the designation.* • *There is flexibility and spatial provisions within each of the designation boundaries to respond to future interfaces and provide for non-transport functions. For example, ecological response, water management or community functions that deliver a positive contribution to sense of belonging and place context.* I agree that the outline proposal does offer defined routes for a variety of transport modes, but there does not appear to be the flexibility in the design suggested. The designed width of the bridge crossing is a limiting factor in providing any expansion beyond that planned at this time. It would be helpful if the applicant can explain at the Hearing how the outline proposal provides for design 'flexibility'.
2.4 **Social cohesion**	The UDE notes that *the proposed crossing compromises direct accessibility to the Takaanini Town Centre from Walters Road. Future design stages should consider how to provide connectivity for active modes to the Town Centre. There is an opportunity to provide an active modes ramp along the north side of the crossing.* *There is an opportunity to extend the Takaanini Centre public realm into the space beneath the proposed bridge structure. This could provide north-south connectivity to the residential area.* *To enable equitable local connectivity and cross corridor access further development at future design stages should be undertaken for crossing points and potential midblock crossings. This includes:* ○ *Prioritised active modes crossing at Great South Road intersection to enable connectivity to the active mode network. Ensure appropriate setback of crossing points to maintain user safety;* ○ *Prioritised crossing points at proposed access lanes and across Braeburn Place; and* ○ *Prioritised crossing points at Arion Road.* I agree that most of these identified measures and recommendations will assist with mitigation. At this time, I am unconvinced the prospect of accessing the Takanini Town Centre is a positive suggestion given the likely

Principle	Application to Walters Road
	physical characteristics of the environment under the bridge. With respect to the stated outcomes of this principle,I do not consider the proposal: • Delivers a positive contribution to the sense of belonging and community resilience. The effects to numerous dwellings and commercial activities are significant and adverse. • Establish and support a positive spatial relationship to the grain of future development.
2.5 **Safety**	The UDE identifies that *unresolved land post construction adjacent to the rail line and under the bridge could result in potential CPTED issues. Further resolution of the spatial arrangement is needed in future design stages in order to provide a legible and safe connection around the local centre and industrial zone. The design response must consider CPTED principles.* I agree the outline design presents significant CPTED concerns, principally derived from the scale and massing of the bridge and the indicative connections under the bridge structure. Whilst I recognize that some of these adverse effects may be mitigated to a limited degree, I consider the design approach to have inherent shortcomings in terms of the application of the 'safe corridors' design principle. Specifically: • The design will not promote a sense of personal safety.
3.1 **Align corridors with density**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area, stating: The project areas will provide a core transport function as east-west connectors in the Takaanini area, supporting the requirements of the NPS-UD and the MDRS. This includes supporting increased development capacity within a walkable catchment of Takaanini Train Station Through enabling key connections to the Takaanini Train Station and the wider existing active modes network, the project areas support modal shift and provide a positive contribution to the vibrancy and activation of the varied urban environments within the Takaanini area. I acknowledge that the outline project will support connectivity and enable a variety of movement modes. I do not understand however and therefore agree with the statement that the outline plan will make a positive contribution to the vibrancy of the area. The physical effects of outline works are in my opinion more likely to adversely affect conditions that support vibrancy because of the grade separation and creation of areas beneath the bridge.

Principle	Application to Walters Road
3.2 **Corridor scaled to the surrounding context and urban structure**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area: *The project areas provide an appropriate response to the potential needs of the adjacent precinct functions, by providing connectivity through efficient localised movement and provision of mixed mode travel. This includes industrial employment land, future areas of high density residential, Takaanini Local Centre and to Takaanini Train Station.* *The physical scale of the crossings poses challenges to their existing surrounding context as a result of minimum clearance requirements for the rail line. In some locations the size and position of the crossings contribute to impacts such as overshadowing to some properties. Future development should consider appropriate building setbacks to mitigate or avoid overshadowing effects.* I agree with these concerns but remain unconvinced on the basis of available information that the design can be adequately mitigated by design and that adverse urban design effects on the amenity of the surrounding area will not result. I have noted the emphasis in assessment reports of the significance of the PC78 and possible influence rezoning may have on future built form. I note that in this case the MDRS would suggest a Mixed Urban zoning that aligns with the existing zoning for the block defined by Walters and Porchester Road. The existing zoning between Arion Road and Porchester Road is MHSZ and given the recent development character I do not believe this area is likely to redevelop in the medium term. In my opinion having regard to the existing and possible future built environment and the purpose of the principle the outline proposal does not align well with achieving a sympathetic scale of development to the existing and likely future environment.
3.3 **Facilitate an appropriate interface between place and movement**	The UDE identifies that: *Key interface considerations for this project area are the Takaanini Town Centre and residential development between Arion Road and the rail line. Future design stages should address how the bridge interfaces appropriately with these areas, in particular the provision of active edge permeability.* Whilst the outline proposal has positive qualities such as the provision of safe movement modes the scale of the bridge crossing and location relative to the residential environment creates tensions to the extent that I do not have confidence that the fundamental issues can be resolved by detailed design. In terms of this principle, I therefore believe adverse urban design effects will result.

Principle	Application to Walters Road
4.1 **Connect nodes**	The UDE identifies that: *The project area forms a direct connection between the Great South Road and Porchester road FTN's as well as Takaanini Town Centre. It forms a key east/west link in the wider active mode network.* I agree the corridor presents a key connection in the wider network.
4.2 **Connect modes**	The UDE identifies that: *Detailed development of active mode connections into the existing network on Great South Road and Porchester Road is required at future design stages.* I agree that the outline plan provides for connectivity but note also the effects of the present proposal on some businesses including the removal of yard areas.
4.3 **Support access to employment and industry**	The UDE identifies that: *The project area provides connectivity and efficient localised movement to the Takaanini Centre providing access to both sides of the rail line including to the light industrial area to the south-east.* I agree that the outline plan provides for connectivity but note also the effects of the present proposal on some businesses including the removal of yard areas.
4.4 **Prioritise active modes and public transport**	The UDE identifies that: *The project area supports connectivity and strengthens the wider network of active modes and public transport. This is reinforced by AT's future connect which identifies Walters Road as a major/primary route in the active modes network.* *Further development of safe and prioritised active mode crossings at the Great South Road intersection and connection into the wider network is needed. Intersection design, including appropriate setbacks and locations, require careful consideration to minimise conflict between modes.* *Future design stages should include north south crossings at the Arion Road intersection.* I agree with this assessment and recommendation.
4.5 **Support inter-regional connections and strategic infrastructure**	The UDE makes no specific comment on this principle but refers in general terms to the overall project area noting: *While the project areas themselves do not form part of any inter-regional connection, they do support the strategic infrastructure planning of the rail line. The crossings meet the vertical and horizontal clearance to accommodate the future movement and expansion of the rail line i.e., four tracking.* I agree with this assessment.

Principle	Application to Walters Road
4.6 Support legible corridor function	The UDE identifies that: *The proposed crossing compromises direct accessibility to the Takaanini Town Centre from Walters Road. Future design stages should consider how to provide connectivity for active modes to the Town Centre. There is also opportunity to provide an active modes ramp along the north side of the crossing.* I agree with this assessment but do not consider the connection under the bridge can be adequately resolved by design. The area will be largely incapable of passive surveillance and unlikely to present a physical environment that would be considered 'comfortable' for many people. The outline proposal does not therefore wholly meet the purpose of the principle.
5.1 Public transport directed and integrated into centres	This principle is not directly relevant to the Walters Road Crossing.
5.2 Strategic corridors as urban edges	This principle is not directly relevant to the Walters Road Crossing.

5.1.7 In conclusion, the assessment of the proposed development project along Walters Road highlights both opportunities and challenges across various principles of urban design and environmental sustainability. While there are positive aspects to the proposal, such as the potential for integrated stormwater strategies and support for active modes and public transport, several key concerns have been identified. These include the adverse effects on social cohesion, sense of place, and safety due to the scale and massing of the proposed structures, as well as the compromise to pedestrian and cyclist connectivity. Additionally, I hold doubts with respect to the ability of the proposal to minimize land disturbance, align with the surrounding urban context, and facilitate an appropriate interface between place and movement.

5.1.8 While some ULDMP recommendations for future design stages are acknowledged, such as the need for active mode crossings and intersection design improvements, my overall conclusion is that the current proposal may fall short of fully meeting the desired outcomes for several urban design principles. In light of these findings, it is essential that future design stages carefully address the identified shortcomings and prioritize solutions that better align with the principles of social cohesion, and urban livability.

6.0 Planning policy context.

Under section 3 of the UDE the policy framework for the assessment is discussed. Key documents that have informed the assessment are listed as:

- Te Tupu Ngatahi Design Framework.
- National Policy Statement on Urban Development (NPS-UD).
- Government Policy Statement on Land Transport.
- NZ Transport Agency Bridging the Gap, Regional Land Transport Plan.
- New Zealand Urban Design Protocol).
- Auckland Plan 2050.
- Auckland Transport Alignment Project.
- AT Roads and Streets Framework.
- AT Transport Design Manual.
- Auckland Unitary Plan: Operative in Part (AUP:OP).
- AT Sustainability Framework.
- Auckland Transport Code of Practice.

6.1 In terms of the linkage between the UDE and the Assessment of Environmental Effects (AEE) I note that the UDE does not appear to be a part of the AEE but is noted that the UDE considers the Project is 'generally supportive' of the Urban Design Framework (UDF) principles. Whilst I agree that the outline plans do satisfy many of the 'movement' based criteria of the UDF they do not, in my opinion, resolve satisfactorily the social, built form and to some degree, environmental aspects. The key difference in my assessment and conclusions to that of the UDE is that in many areas I consider the likely adverse urban design effects of the Taka St and Walters Road outline plans to be significant and unlikely to be appropriately mitigated by detailed design.

6.2 A further difference in my approach and assessment is the weighting given to the PC78. The UDE places considerable emphasis on the likely future built environment as a touchstone for the scale and massing effects of the outline plans. I consider too much weight is placed here and that a more cautious approach is warranted when considering the potential physical effects of the proposed crossings. My reason for adopting this position is twofold:

1. The relatively early stage of notification and postponement of Hearings for PC 78.
2. Practical experience of development in existing higher density zones.

6.3 The first of my reasons requires no further explanation, and the second I have already addressed in my review of the UDE Assessment. To briefly recap, however, it is my experience that within the present THAB zones, apartment development is far from the normal development type and terraced housing is far more popular. The reasons for this are many but some common factors favouring town houses ahead of apartments are,

cost, complexity, timescales and frequently difficulties in maximising development yield because of planning factors such as height in relation to boundary controls, shading and privacy effects. Given this experience, I consider the likely future built environment will likely shift towards 2 and 3 storey buildings, with apartment buildings (6 storeys) limited to 'special' sites.

7.0 Comments on submissions

I have read the submissions for both NoR's and many common concerns emerge from submitters, including the likely effects to business viability or operation, damaged property values, environmental effects (dust, noise, flooding) and traffic (including parking) effects. These are matters that I consider relevant in the broader remit of urban design, but not constituting focal point elements for this memorandum. I have noted below the more central urban design matters together with the relevant submission numbers.

7.1 Scale and massing effects NoR 1 #11,37,38,39,40; NoR 2 #9,10,11,15,17,18,19,20

The scale, visual and associated massing effects of the proposed crossings are discussed in the these submissions and principally relate to the effects of both the Taka Street and Walters Road outline plans. Concerns encompass:

- The visual impact of the outline proposals from public and private spaces.
- The scale and massing of the proposed development in response to and respect of the existing context.
- The effects of the proposed scale and massing on sunlight access and shadow patterns in the surrounding area.
- The scale of the development from a human perspective, including how it will feel to pedestrians/cyclists adjacent to the structures.

Whilst the proposed crossings are only design concept in nature, I share the submitters concerns that the overall massing of the structures relative to the built environment may generate adverse effects in terms of visual amenity, harmony and physical shading effects.

7.1.1 I note that Walters Road, Taka St and Manuia Road crossings all feature concept 3D visualisations, but I consider these of limited value in determining the proximate effects of massing relative to the existing environment and the suitability of the landscape mitigation. This is a matter of particular concern for 7 and 9-13 Taka Street where the proximity of the bridge structure and access arrangements suggest the extent of designation may not be suitable vis a vis accommodating the bridge and mitigating likely effects. I would therefore like to have further details on the outline design presented at the Hearing by the Requiring Authority. I also consider it beneficial to have additional detail of the treatment to 21-27 Walters Road. I note that the designation includes the whole land parcel for each property, but the outline plan does not provide any corresponding design concept in the same way as is provided elsewhere. I consider this important,

particularly with regard to determining access requirements and likely future interface relationships between development and the bridge.

7.2 Crime Prevention Through Environmental Design (CPTED).NoR 1 #20,27,37,38,39,40,43; NoR 2 #4,9,10,11,13,17,18,19,20,23

Each of the submitters raise concerns related to the safety of future environments for walking, cycling and the prospect of the resultant environment generating opportunities for anti-social behaviour and crime. Collectively, such concerns are usually addressed under the collective heading of CPTED which provides a framework to assess proposals in the planning stage. The main principles of CPTED are:

- Natural Surveillance: Designing spaces in a way that maximizes visibility and allows people to observe their surroundings easily. This can include features such as encouraging overlooking of the street, lighting, planting and clear sightlines.
- Territorial Reinforcement: Establishing a sense of ownership over a space by delineating property lines clearly and using architectural elements, landscaping, and signage to communicate ownership and discourage trespassing.
- Access Control: Managing and controlling access to spaces through strategies such as fencing, gating, and landscaping. Limiting access points and controlling movement in association with other design measures can help reduce opportunities for criminal or anti-social activity.
- Activity Support: Encouraging legitimate use of spaces through design features that promote social interaction and community engagement. This can include amenities like seating areas, recreational facilities, and public art. This extends the concept of 'eyes on the street' and civic ownership.
- Maintenance and Management: Ensuring that spaces are well-maintained and managed to prevent signs of neglect or disrepair, which can encourage criminal activity and anti-social behaviour. Regular maintenance, graffiti removal, and community involvement in upkeep are important aspects.

7.2.1 Whilst I acknowledge the ULDMP recognizes the importance of CPTED as an assessment tool for detailed design development, based upon the outline plans I share the submitters concerns with the recommended design approach indicated for all proposed crossings but particularly those for Taka Street and Walters Road. Even at this early design stage there are a number of specific concerns including:

- Suggested pedestrian and cycle connections beneath bridges that create safety hazards for pedestrians and may discourage walking/cycling as a mode of transportation.
- Lack of passive surveillance opportunities. Unobserved pedestrian/cycle access routes may contribute to feelings of insecurity. Unobserved areas are generally discouraged in the public realm because of the opportunities they present for crime and anti-social behaviour.

- Lack of territorial definition for affected sites e.g. 21-27 Walters Road.
- Effects on the setting of Takanini Reserve.

I recommend the Requiring Authority present additional evidence at the Hearing to demonstrate at the outline plan stage how these concerns may be successfully addressed.

7.3 Legible and connected spaces. NoR 1#5,10,11,21,37,38,39,40,43; NoR 2 #4,9,10,11,13,17,18,19,20,22,23.

With respect to legibility and connectivity there exists some crossover with the CPTED concerns, particularly with respect to the suggested routes beneath bridge structures. Additional areas of concern however relate to the mode of access – bridge or underpass. This discussion is relevant to both the active mode and multi-modal options. I note that in terms of the active mode connections, provision is made in the ULDMP condition 12(g)(iii)g. This suggests that the option of underpass design solutions are not dismissed as potential solutions at this time. I acknowledge that in terms of CPTED matters, underpasses are not without their own concerns, but I agree that at this outline stage they should remain an option. As for the multi-modal connections, particularly those for Taka Street and Walters Road the option of an underpass solution or rail trench solution are not favoured by the Requiring Authority. Similar to the active mode connection, I consider, given the outline plan status, removing the option of underpass connection is premature and that it should remain an option for further investigation noting that Waka Kotahi's EAST assessment tool concluded road under rail (as a broad option) was 'Not preferred but not yet discounted – no fatal flaw identified but not preferred given greater cost and construction disruption anticipated compared with a bridge.' (Table 6.6. AEE – Assessment of Alternatives). I further note that the subsequent Multi Criteria Assessment of the option only considered the Walters Road crossing and did not undertake a similar exercise for Taka Street.

8.0 Suggested amendments and additional conditions

I recommend the following amendments to existing conditions. Additions are shown underlined and italicised and deletions ~~strikethrough~~:

Condition 3 (d)

(i) design details including but not limited to:

A. boundary treatment (e.g. the use of retaining walls or batter slopes);

B. the horizontal and vertical alignment of the road (levels);

C. potential locations for mid-block crossings;

D access to properties during and post construction:

E. integration of stormwater infrastructure; and

F. how to access traffic noise modelling contours to inform adjacent development.

Condition 12

(b) The objective of the ULDMP(s) is to:

(i) Enable integration of the Project's permanent works into the surrounding landscape and urban context; and

Ensure that the Project manages potential adverse landscape and visual effects ~~as far as practicable~~ and contributes to a quality urban environment.

(f) To achieve the objective, the ULDMP(s) shall provide details of how the project:

(i) Is designed to *successfully* integrate with the adjacent urban (or proposed urban) and landscape context, including the surrounding existing or proposed topography, urban environment (i.e. centres and density of built form), natural environment, landscape character and open space zones;

(ii) Provides ~~*appropriate*~~ *direct, efficient and high-quality* walking and cycling ~~*connectivity*~~ *connections* to, and interfaces with, existing or proposed adjacent land uses, public transport infrastructure and walking and cycling connections; *Connections should be direct, legible and minimise the length of access ramps;*

(iii) ~~*Promotes*~~ *Provides inclusive access* ~~*(where appropriate)*~~*; and*

9.0 Response to S92 – outstanding matters

The following table lists the matters requested and response. I have added comments on the to the response/information provided.

Request	**Response**	**Comment**
Please provide indicative Section drawing at a scale of no less than 1:100 for the lines indicated A-A and B-B on Manuia Road project area plan attached. *Rationale: To provide indicative detail of proposed massing relationships and adequacy of suggested setbacks and areas of landscape mitigation.*	The concept level of design has been undertaken to inform the designation boundaries. The following information can be used to gain a general understanding of the massing of the proposed structures: • The General Arrangement Plans (refer to Volume 3 of the lodgment package); • The indicative project details and work descriptions	The information provided is useful in a general sense but greater clarity particularly around key interfaces and potential massing effects would be improved by simplified section drawings. Given the level of design necessary to produce the architectural renders i.e. they are likely generated from a 3D model it is not clear why the applicant refuses to provide the additional information notwithstanding the outline design stage.

Please provide indicative Section drawing at a scale of no less than 1:100 for the lines indicated A-A and B-B on Taka Street project area plan attached. *<u>Rationale;</u> To provide indicative detail of proposed massing relationships and adequacy of suggested setbacks and areas of landscape mitigation.*	in Section 3.3 of the AEE i.e., vertical and horizontal clearances (refer to Volume 2 of the lodgement package); • The visualisations in Section 10.4 of the AEE (refer to Volume 2 of the lodgement package). The proposed works including structures relative to the boundaries will be further refined as part of the Outline Plan and management plan process.	The information provided is useful in a general sense but greater clarity particularly around key interfaces and massing effects would be improved by simplified section drawings. Given the level of design necessary to produce the architectural renders i.e. they are likely generated from a 3D model it is not clear why the applicant refuses to provide the additional information notwithstanding the outline design stage.
Please provide indicative Section drawing at a scale of no less than 1:100 for the lines indicated A-A and B-B on Walters Road project area plan attached. *<u>Rationale:</u> To provide indicative detail of proposed massing relationships and adequacy of suggested setbacks and areas of landscape mitigation.*		The information provided is useful in a general sense but greater clarity particularly around key interfaces and massing effects would be improved by simplified section drawings. Given the level of design necessary to produce the architectural renders i.e. they are likely generated from a 3D model it is not clear why the applicant refuses to provide the additional information notwithstanding the outline design stage.
Please provide explanation of proposed access arrangements for 21-25 Walters Road. It is noted that in other similar circumstances an access lane arrangement is shown for future access of residual residential parcels. *<u>Rationale:</u> To determine in broad terms effectiveness of post construction integration and urban design outcomes.*	The sites located at 21-25 Walters Road are fully within the proposed designation boundaries and will need to be acquired to implement the Project. At the Completion of Construction, the Designation Review condition provides a mechanism for the Requiring Authority to review land that may no longer be required for the on-going operation, maintenance or mitigation of effects of the Project. In the case that this land is no longer required at this point, access to the site(s) could be provided off Braeburn Place. Access lanes are provided elsewhere in the Project where there is a need to provide access to remaining adjacent properties (i.e., those not within the designation boundaries).	Thank you for the response and noted.

Please confirm where access lanes to existing and future land parcels are illustrated that these are appropriately scaled and dimensioned to accommodate potential growth in line with PC 78/NPSUD objectives. *<u>Rationale:</u> To determine in broad terms effectiveness of post construction integration and urban design outcomes.*	The General Arrangement Plans show the indicative design (to inform the designation boundaries) but are scaled and can be referred to for understanding the indicative dimensions of these access lanes. They have been designed considering the future receiving environment (including what is Plan-enabled and anticipated by PC78/NPS:UD mandatory direction), and with due consideration to relevant Auckland Transport design standards.	Thank you for the response and noted.
Please provide explanation of the vehicle turning provisions for 7-13 Taka St. Why is a turning head not required? <u>*Rationale:*</u> To determine in broad terms effectiveness of post construction integration and urban design outcomes.	A turning head is not proposed or required as this effectively functions as a driveway access for accessing the adjoining properties and is not a public access lane. Vehicles can undertake the necessary manoeuvres within the respective adjoining properties.	Thank you for the response. I remain unclear however, whether it is therefore the intension for the lane to be private and not publicly owned? For example, in a residential development context where lots are accessed by a private lane the public roads in my experience, terminate in a turning head with the private lanes accessed from it. Please clarify the design intention in this case to determine the adequacy of the designation extent and or effects to the adjacent properties.

9.1 I consider that the following urban design matters should be addressed by the Requiring Authority in evidence or at the Hearing to:

9.2 Show clearly how access to 9-13 Taka Street will be achieved and relative massing of a bridge crossing to the property. The plan should include details of how the access lane would connect to Taka Street safely and enable the Z petrol station to continue to operate. And demonstrate the spatial arrangement and suitability for mitigating landscape measures to ensure there is enough space to manage effects.

9.3 I also consider it necessary to have additional detail of the treatment to 21-27 Walters Road. I note that the designation includes the whole land parcel for each property, but the outline plan does not provide any corresponding design concept in the same way as

is provided for other project areas. I consider this important, particularly with regard to determining access requirements and possible interface relationships.

9.4 Confirmation that the use of underpass design solutions for active mode crossings remain an option as suggested by condition 12(g)(iii)g.

9.5 For both the Taka St and Walters Road proposals, the Requiring Authority considers the proposals will add to the 'vibrancy and activation of the urban area' (Principle 3.1 UDE). The Requiring Authority should present additional evidence to explain how it is envisaged the proposals will enable this. The evidence also address the high level CPTED concerns highlighted, in particular the role of passive surveillance and territoriality.

10.0 Conclusion:

The central conclusion of this assessment is that, whilst at a high level the purpose of the NoR's will achieve an improved degree of connectivity, the physical effects of doing so for some project areas are likely to result in adverse urban design effects. Some of these effects may be adequately mitigated by future design refinement and decisions. In particular, I accept that the crossings proposed at Spartan Road, Manuia Road and Manuroa Road can conceivably be refined to achieve an acceptable urban design outcome given their respective contexts.

10.1 I remain unconvinced on the basis of the outline plans for Taka St and Walters Road that the effects of the proposal will be not be adverse in terms of urban design outcomes and incapable of adequate mitigation through the UDLMP process. Specifically, I consider the likely massing effects of the bridge structures will result in adverse amenity effects, create areas unsafe from a CPTED perspective and not likely to integrate suitably with the surrounding development.

Please feel free to reach out if you require any additional information or clarification regarding this Urban Design Memorandum. I trust that this document will assist in the preparation of the Section 42A report and contribute to a thorough and informed decision-making process.

J Evans MRTPI.

ATTACHMENT SIX

RECOMMENDED AMENDMENTS TO THE PROPOSED CONDITIONS

NoR 1: Takaanini Level Crossings (TLC): Spartan Road, Manuia Road, Manuroa Road and Taka Street

NoR 2: Takaanini Level Crossings (TLC): Walters Road level crossing closure and new multi-modal bridge

ATTACHMENT 6: RECOMMENDED AMENDMENTS TO THE PROPOSED CONDITIONS

Proposed additions to conditions are in underline and deletions are in ~~strikethrough~~

Proposed amendments are colour coded as follows:

NoR 1 and NoR 2 amendments: Yellow

NoR 1 amendments: Blue

NoR 2 amendments: Green

The specialist area or expertise which recommended the proposed changes is shown in ***[bold italics in brackets]*** after each proposed amendment.

No amendments are recommended to the notified Schedules or Concept plans in either NoR therefore they are not included in this document due to their length. However a new Schedule is recommended for each NoR and this is included in this document.

Abbreviations and definitions

Acronym/Term	Definition
Activity sensitive to noise	Any dwelling, visitor accommodation, boarding house, marae, papakāinga, integrated residential development, retirement village, supported residential care, care centre, lecture theatre in a tertiary education facility, classroom in an education facility and healthcare facility with an overnight stay facility.
AUP	Auckland Unitary Plan
BPO or Best Practicable Option	Has the same meaning as in section 2 of the RMA 1991
CEMP	Construction Environmental Management Plan
Certification of material changes to management plans and CNVMP Schedules	Confirmation from the Manager that a material change to a plan or CNVMP Schedule has been prepared in accordance with the condition to which it relates. A material change to a management plan or CNVMP Schedule shall be deemed certified: (a) where the Requiring Authority has received written confirmation from Council that the material change to the management plan is certified; (b) ten working days from the submission of the material change to the management plan where no written confirmation of certification has been received; or (c) five working days from the submission of the material change to a CNVMP Schedule where no written confirmation of certification has been received.
CNVMP	Construction Noise and Vibration Management Plan
CNVMP Schedule or Schedule	A schedule to the CNVMP
Completion of Construction	When construction of the Project (or part of the Project) is complete and it is available for use.
Construction Works	Activities undertaken to construct the Project excluding Enabling Works
Council	Auckland Council
CTMP	Construction Traffic Management Plan
Developer	Any legal entity that intends to master plan or develop land adjacent to the designation
Development Agency	Public entities involved in development projects
DRMP***[Social Impact NoR 1 and NoR 2]***	Development Response Management Plan***[Social Impact NoR 1 and NoR 2]***
Enabling works	Includes, but is not limited to, the following and similar activities: (a) geotechnical investigations (including trial embankments) (b) archaeological site investigations (c) formation of access for geotechnical investigations (d) establishment of site yards, site entrances and fencing (e) constructing and sealing site access roads (f) demolition or removal of buildings and structures (g) relocation of services (h) establishment of mitigation measures (such as erosion and sediment control measures, temporary noise walls, earth bunds and planting)
Manager	The Manager – Resource Consents of the Auckland Council, or authorised delegate.

Acronym/Term	Definition
Mana Whenua	Mana Whenua as referred to in the conditions are considered to be the following (in no particular order), who at the time of Notice of Requirement expressed a desire to be involved in the Project: • Te Ākitai Waiohua; • Ngai Tai ki Tāmaki; • Ngaati Te Ata Waiohua; • Ngaati Whanaunga; • Ngāti Tamaoho; • Ngāti Paoa Trust Board; • Te Ahiwaru Waiohua • Ngāti Tamaterā • Ngāti Maru **Note:** Other iwi not identified above may have an interest in the Project and should be consulted
Network Utility Operator	Has the same meaning as set out in section 166 of the RMA.
NUMP	Network Utilities Management Plan
NOR	Notice of Requirement
NUSOP***[Development Engineering NoR 1 and NoR 2]***	Network Utility Strategic Outcomes Plan***[Development Engineering NoR 1 and NoR 2]***
Outline Plan	An outline plan prepared in accordance with section 176A of the RMA.
Project Liaison Person	The person or persons appointed for the duration of the Project's Construction Works to be the main point of contact for persons wanting information about the Project or affected by the Construction Works.
Protected Premises and Facilities (PPF)	Protected Premises and Facilities as defined in New Zealand Standard NZS 6806:2010: *Acoustics – Road-traffic noise – New and altered roads.*
Requiring Authority	Has the same meaning as section 166 of the RMA and, for this Designation is Auckland Transport.
RMA	Resource Management Act (1991)
SCEMP	Stakeholder Communication and Engagement Management Plan
Stage of Work	Any physical works that require the development of an Outline Plan.
Start of Construction	The time when Construction Works (excluding Enabling Works) start.
Suitably Qualified Person	A person (or persons) who can provide sufficient evidence to demonstrate their suitability, experience and competence in the relevant field of expertise.
ULDMP	Urban and Landscape Design Management Plan

NoR No.	No.	Condition
General Conditions		

NoR No.	No.	Condition
NoRs 1 and 2	**1.**	**Activity in General Accordance with Plans and Information** (a) Except as provided for in the conditions below, and subject to final design and Outline Plan(s), works within the designation shall be undertaken in general accordance with the following in Schedule 1: (i) The Project Description; and (ii) Concept Plan. (b) Where there is inconsistency between: (i) the Project Description and Concept Plan in condition 1(a) above and the requirements of the following conditions, the conditions shall prevail; (ii) the Project Description and Concept Plan in condition 1(a), and the management plans under the conditions of the designation, the requirements of the management plans shall prevail.
NoRs 1 and 2	**2.**	**Project Information** (a) A project website, or equivalent virtual information source, shall be established within 12 months of the date on which this designation is included in the AUP. (b) All directly affected and adjacent ***[Social Impact NoR 1 and NoR 2]*** owners and occupiers shall be notified in writing once the website or equivalent information source has been established. (c) The Requiring Authority will publicise the decision outcomes and location of the website throughout the community using relevant media sources and languages, at least on an annual basis throughout the project until completion. ***[Social Impact NoR 1 and NoR 2]*** (d) The project website or virtual information source shall include these conditions and shall provide information on: ***[Social Impact NoR 1 and NoR 2]*** (i) the status of the Project, including ongoing engagement and activities in relation to implementation of the management plans ***[Social Impact NoR 1 and NoR 2]***; (ii) anticipated construction timeframes; ~~and~~ ***[Social Impact NoR 1 and NoR 2]*** (iii) contact details for enquiries. (iv) the implications of the designation for landowners, occupiers and business owners and operators within the designation and where they can receive additional ~~advice~~ support ***[Social Impact NoR 1 and NoR 2]***; (v) a subscription service to enable receipt of project updates by email; and (vi) when and how to apply for consent for works in the designation under s176(1)(b) of the RMA. ~~(b)~~(e) At the start of detailed design for a Stage of Work, the project website or virtual information source shall be updated to provide information on the likely date for Start of Construction, and any staging of works. ***[Social Impact NoR 1 and NoR 2*** (f) The project website or virtual information source shall be updated to provide a copy of all SCEMPs and Management Plans outlined in Condition 7 as they are developed for a Stage of Works. ***[Social Impact NoR 1 and NoR 2]***
NoRs 1 and 2	**3.**	**Land Use Integration Process** The Requiring Authority shall set up a Land use Integration Process for the period between confirmation of the designation and the Start of Construction. The purpose of this process is to encourage and facilitate the integration of master planning and land use development activity on land directly affected or adjacent to the designation. To achieve this purpose:

NoR No.	No.	Condition
		(a) Within twelve (12) months of the date on which this designation is included in the AUP, the Requiring Authority shall include the contact details of a nominated contact on the project website (or equivalent information source) required to be established by Condition (2)(a)(iii). (b) The nominated contact shall be the main point of contact for a Developer or Development Agency wanting to work with the Requiring Authority to integrate their development plans or master planning with the designation. (c) At any time prior to the Start of Construction, the nominated contact will be available to engage with a Developer or Development Agency for the purpose of: (i) responding to requests made to the Requiring Authority for information regarding design details that could assist with land use integration; and (ii) receiving information from a Developer or Development Agency regarding master planning or land development details that could assist with land use integration. (d) Information requested or provided under Condition 3(c) above may include but not be limited to the following matters: (i) design details including but not limited to: A. boundary treatment (e.g. the use of retaining walls or batter slopes); B. the horizontal and vertical alignment of the road (levels); C. potential locations for mid-block crossings; D. access to properties during and post construction***;[Urban Design NoR 1 and NoR 2]*** ~~D~~E. integration of stormwater infrastructure and/or flood hazard management***[Flood Hazard and Stormwater NoR 1 and NoR 2]***; and ~~E~~F. how to access traffic noise modelling contours to inform adjacent development. ***[Urban Design NoR 1 and NoR 2]*** (ii) a process for the Requiring Authority to undertake a technical review of or provide comments on any master planning or development proposal advanced by the Developer or Development Agency as it relates to integration with the Project; (iii) details of how to apply for written consent from the Requiring Authority for any development proposal that relates to land is within the designation under section 176(1)(b) of the RMA; and (e) Where information is requested from the Requiring Authority and is available, the nominated contact shall provide the information unless there are reasonable grounds for not providing it. (f) The nominated contact shall maintain a record of the engagement between the Requiring Authority and Developers and Development Agencies for the period following the date in which this designation is included in the AUP through to the Start of Construction for a Stage of Work. The record shall include: (i) details of any requests made to the Requiring Authority that could influence detailed design, the results of any engagement and, where such requests that could influence detailed design are declined, the reasons why the requiring authority has declined the requests; and (ii) details of any requests to co-ordinate the forward work programme, where appropriate, with Development Agencies and Network Utility Operators. (g) The record shall be submitted to Council for information ten working days prior to the Start of Construction for a Stage of Work

NoR No.	No.	Condition
NoRs 1 and 2	**4.**	**Designation Review** (a) The Requiring Authority shall within 6 months of Completion of Construction or as soon as otherwise practicable: (i) review the extent of the designation to identify any areas of designated land that it no longer requires for the on-going operation, maintenance or mitigation of effects of the Project; and (ii) give notice to Auckland Council in accordance with section 182 of the RMA for the removal of those parts of the designation identified above.
NoRs 1 and 2	**5.**	**Lapse** (a) In accordance with section 184(1)(c) of the RMA, this designation shall lapse if not given effect to within 15 years from the date on which it is included in the AUP.
NoRs 1 and 2	**6.**	**Network Utility Operators and Parks *[Parks Planning NoR 1 and NoR 2]*(Section 176 Approval)** (a) Prior to the start of Construction Works, Network Utility Operators with existing infrastructure located within the designation will not require written consent under section 176 of the RMA for the following activities: (i) operation, maintenance and urgent repair works; (ii) minor renewal works to existing network utilities necessary for the on-going provision or security of supply of network utility operations; (iii) minor works such as new service connections; and (iv) the upgrade and replacement of existing network utilities in the same location with the same or similar effects as the existing utility. (b) Prior to the start of Construction Works, Auckland Council will not require written consent under section 176 of the RMA to carry out minor upgrading of existing features and facilities within parks/reserves affected by the designation. ***[Parks Planning NoR 1 and NoR 2]*** (c)~~(b)~~ To the extent that a record of written approval is required for the activities listed above, this condition shall constitute written approval.***[Parks Planning NoR 1 and NoR 2]***
Pre-construction Conditions		
NoRs 1 and 2	**7.**	**Outline Plan** (a) An Outline Plan (or Plans) shall be prepared in accordance with section 176A of the RMA. (b) Outline Plans (or Plan) may be submitted in parts or in stages to address particular activities (e.g. design or construction aspects), or a Stage of Work of the Project. (c) Outline Plans shall include any management plan or plans that are relevant to the management of effects of those activities or Stage of Work, which may include: (i) Construction Environmental Management Plan; (ii) Construction Traffic Management Plan; (iii) Construction Noise and Vibration Management Plan; (iv) Urban and Landscape Design Management Plan; (v) Tree Management Plan; ~~and~~***[Social Impact NoR 1 and NoR 2]*** (vi) Network Utilities Management Plan~~.~~; and***[Social Impact NoR 1 and NoR 2]*** (vii) Development Response Management Plan.***[Social Impact NoR 1 and NoR 2]***

NoR No.	No.	Condition
		(viii) Network Utility Strategic Outcomes Plan (NUSOP)***[Development Engineering NoR 1 and NoR 2]***
NoRs 1 and 2	**8.**	**Management Plans** (a) Any management plan shall: (i) Be prepared and implemented in accordance with the relevant management plan condition; (ii) Be prepared by a Suitably Qualified Person(s); (iii) Include sufficient detail relating to the management of effects associated with the relevant activities and/or Stage of Work to which it relates. (iv) Summarise comments received from Mana Whenua and other stakeholders as required by the relevant management plan condition, along with a summary of where comments have: a. Been incorporated; and b. Where not incorporated, the reasons why. (v) Be submitted as part of an Outline Plan pursuant to s176A of the RMA, with the exception of SCEMPs and CNVMP Schedules. (vi) Once finalised, uploaded to the Project website or equivalent virtual information source. (b) Any management plan developed in accordance with Condition ~~8~~ 7~~may:~~shall be certified by the council. ***[Planning NoR 1 and NoR 2]*** (c) Any management plan developed in accordance with Condition ~~8~~ 7 ***[Planning NoR 1 and NoR 2]***may: (i) Be submitted in parts or in stages to address particular activities (e.g. design or construction aspects) a Stage of Work of the Project, or to address specific activities authorised by the designation. (ii) Except for material changes, be amended to reflect any changes in design, construction methods or management of effects without further process. (iii) If there is a material change required to a management plan which has been submitted with an Outline Plan, the revised part of the plan shall be submitted to the Council as an update to the Outline Plan or for Certification as soon as practicable following identification of the need for a revision; ~~(c)~~(d) Any material changes to the SCEMPs are to be submitted to the Council for information.***[Planning NoR 1 and NoR 2]***
NoRs 1 and 2	**9.**	**Stakeholder Communication and Engagement Management Plan (SCEMP)** (a) A SCEMP shall be prepared in consultation with stakeholders, community groups and organisations. (b) The objective of the SCEMP ~~is to~~ are to:***[Social Impact NoR 1 and NoR 2]*** (i) identify how the public and stakeholders (including directly affected and adjacent owners and occupiers of land) will be proactively engaged with prior to and throughout the Construction Works.***[Social Impact NoR 1 and NoR 2]*** (ii) Develop, maintain and build relationships with the wider public and diverse stakeholders (including directly affected and adjacent landowners e.g. businesses, community organisations, households and their tenants).***[Social Impact NoR 1 and NoR 2]*** (iii) Provide opportunities for those new to the area to find out about and engage with the project:***[Social Impact NoR 1 and NoR 2]*** (c) To achieve the objective, of the SCEMP:

NoR No.	No.	Condition
		(i) At least 18 months prior to any Outline Plan being submitted for Construction of a Stage of Work, the Requiring Authority shall identify: A. The properties whose owners and occupiers ***[Social Impact NoR 1 and NoR 2]*** will be engaged with; B. A list of key stakeholders, community groups, organisations and businesses including Papakura Local Board, Manurewa Local Board, Franklin Local Board, Takanini Business Association, Ministry of Education, Kāinga Ora, KiwiRail Holdings Limited, Fire and Emergency New Zealand, Auckland Council Parks, and Network Utility Providers ***[Social Impact NoR 1 and NoR 2]*** who will be engaged with; C. Methods and timing to engage with landowners and occupiers whose access is directly affected. D. Methods to engage and consult with the public, key stakeholders, community groups, organisation and businesses, ***[Social Impact NoR 1 and NoR 2]*** (ii) The SCEMP shall include: A. Details of ~~(b)~~(c)(i)A to ~~C~~D ***[Social Impact NoR 1 and NoR 2]***; B. the contact details for the Project Liaison Person. These details shall be on the Project website, or equivalent virtual information source, and prominently displayed at the main entrance(s) to the site(s); C. the procedures for ensuring that there is a contact person available for the duration of Construction Works, for public enquiries or complaints about the Construction Works; D. methods for engaging with Mana Whenua, to be developed in consultation with Mana Whenua; E. methods to communicate key project milestones and the proposed hours of construction activities including outside of normal working hours and on weekends and public holidays, to the parties identified in ~~(b)~~(c)(i)A and ~~C~~D above; ~~and~~ ***[Social Impact NoR 1 and NoR 2]*** F. linkages and cross-references to communication and engagement methods set out in other conditions and management plans where relevant. G. details of opportunities to strengthen the relationship of the Requiring Authority with key stakeholders and the wider community; ***[Social Impact NoR 1 and NoR 2]*** H. A record of the consultation undertaken with Mana Whenua and the community, including summaries of feedback and any response given or action taken by the Requiring Authority as a result of that feedback; and ***[Social Impact NoR 1 and NoR 2]*** I. Any outcomes or actions undertaken in response to feedback, as well as public complaints that are not covered by Condition 16 (Complaints Register). ***[Social Impact NoR 1 and NoR 2]*** ~~(c)~~(d) Any SCEMP prepared for a Stage of Work shall be submitted to Council for ~~information~~ certification ten working days prior to the Start of Construction for a Stage of Work. ***[Social Impact NoR 1 and NoR 2]***

NoR No.	No.	Condition
NoRs 1 and 2	**10.**	**Cultural Advisory Report** (a) At least six (6) months prior to the start of detailed design for a Stage of Work, Mana Whenua shall be invited to prepare a Cultural Advisory Report for the Project. The objective of the Cultural Advisory Report is to assist in understanding and identifying Ngā Taonga Tuku Iho ('treasures handed down by our ancestors') affected by the Project, to inform their management and protection. To achieve the objective, the Requiring Authority shall invite Mana Whenua to prepare a Cultural Advisory Report that: (i) Identifies the cultural sites, landscapes and values that have the potential to be affected by the construction and operation of the Project; (ii) Sets out the desired outcomes for management of potential effects on cultural sites, landscapes and values; (iii) Identifies traditional cultural practices within the area that may be impacted by the Project; (iv) Identifies opportunities for restoration and enhancement of identified cultural sites, landscapes and values within the Project area; (v) Taking into account the outcomes of (i) to (iv) above, identify cultural matters and principles that should be considered in the development of the Urban and Landscape Design Management Plan referred to in Condition 12 and the Cultural Monitoring Plan referred to in Condition 17. (vi) Identifies and (if possible) nominates traditional names along the Project alignment. Noting there may be formal statutory processes outside the project required in any decision-making. (b) The desired outcomes for management of potential effects on cultural sites, landscapes and values identified in the Cultural Advisory Report shall be discussed with Mana Whenua and those outcomes reflected in the relevant management plans where practicable. (c) Conditions 10(a) and (b) above will cease to apply if: (i) Mana Whenua have been invited to prepare a Cultural Advisory Report by a date at least 6 months prior to start of Construction Works; and (ii) Mana Whenua have not provided a Cultural Advisory Report within six months prior to start of Construction Works.
NoRs 1 and 2	**11.**	**Mana Whenua Kaitiaki Forum** (a) At least twelve (12) months prior to the start of detailed design for a Stage of Work, the Requiring Authority shall invite Mana Whenua to establish a Mana Whenua Kaitiaki Forum. The objective of the Mana Whenua Kaitiaki Forum is to provide a forum for Mana Whenua to participate as partners in all phases of the Project. To achieve the objective, the Mana Whenua Kaitiaki Forum shall address (as a minimum) the following matters: (i) how Mana Whenua will provide input into the design of the Project. For example: A. how Mana Whenua values and narrative are incorporated through the form of the Project and associated structures; B. how pou, art, sculptures, mahi toi or any other features located on land within or adjoining the Project will be provided in a manner that represents the Māori history of the area and promotes a distinctiveness or sense of place. (ii) how Mana Whenua will be engaged in the preparation of management plans and future consenting processes; (iii) how mātauranga Māori and tikanga Māori will be recognised in all phases of the Project;

NoR No.	No.	Condition
		(iv) where opportunities for Mana Whenua to participate in engagement with local communities, business associations, social institutions and community groups will be provided; (v) where opportunities for Mana Whenua to support the physical, mental, social and economic wellbeing for iwi and the local community will be provided through the Project. This could include: A. planting supplied through Mana Whenua and community based nurseries; B. local schools being involved in planting; and C. scholarships, cadetships and job creation. (vi) The Requiring Authority shall provide reasonable resourcing, technical and administrative support for Mana Whenua including organising meetings at a local venue and the taking and dissemination of meeting minutes; (vii) The frequency of meetings shall be agreed between the Requiring Authority and Mana Whenua; and (viii) prior to the Start of Construction, the Requiring Authority shall produce a record of the Mana Whenua Kaitiaki Forum. The record of the Mana Whenua Kaitiaki Forum shall be provided to Mana Whenua and shall include (but not be limited to): A. details of how Mana Whenua have participated as partners in the Project; B. details of how the matters set out in (a) will be incorporated into the Project; C. how the objective of the Mana Whenua Kaitiaki Forum have been and will continue to be met; and D. details of how comments from Mana Whenua have been incorporated into the Project and where not incorporated, the reasons why. (b) Mana Whenua shall be invited to identify and (if possible) nominate traditional names across the Project such as bridge structures. Noting there may be formal statutory processes outside the project required in any decision making. (c) The Mana Whenua Kaitiaki Forum shall continue to meet for at least six months following Completion of Construction or as agreed with Mana Whenua.
NoRs 1 and 2	**12.**	**Urban and Landscape Design Management Plan (ULDMP)** (a) A ULDMP shall be prepared ~~prior to the Start of Construction~~ at least six (6) months prior to the start of detailed design ***[Landscape NoR 1 and NoR 2]*** for a Stage of Work. (b) The objective of the ULDMP(s) is to: (i) Enable integration of the Project's permanent works into the surrounding landscape and urban context; and (ii) Ensure that the Project manages potential adverse landscape and visual effects ~~as far as practicable~~ ***[Urban Design NoR 1 and NoR 2]*** and contributes to a quality urban environment. (c) Mana Whenua shall be invited to participate in the development of the ULDMP(s) to provide input into relevant cultural landscape and design matters including how desired outcomes for management of potential effects on cultural sites, landscapes and values identified and discussed in accordance with the Cultural Advisory Report (Condition 10) and/or through the Mana Whenua Kaitiaki Forum (Condition 11) may be reflected in the ULDMP.

NoR No.	No.	Condition
		(d) Key stakeholders identified through Condition 9(b)(i)B shall be invited to participate in the development of the ULDMP at least six (6) months prior to the start of detailed design for a Stage of Work. (e) The ULDMP shall be prepared in general accordance with: (i) Auckland Transport's Urban Roads and Streets Design Guide; (ii) Waka Kotahi Urban Design Guidelines: Bridging the Gap (2013) or any subsequent updated version; (iii) Waka Kotahi Landscape Guidelines (2013) or any subsequent updated version; (iv) Waka Kotahi P39 Standard Specification for Highway Landscape Treatments (2013) or any subsequent updated version; and (v) Auckland's Urban Ngahere (Forest) Strategy and the Papakura Urban Ngahere (Forest) Action Plan 2022 ***[Parks Planning NoR 1 and NoR 2]***or any subsequent updated version(s)***[Parks Planning NoR 1 and NoR 2]*****.** (f) To achieve the objective, the ULDMP(s) shall provide details of how the project: (i) Is designed to successfully ***[Urban Design NoR 1 and NoR 2]***integrate with the adjacent urban (or proposed urban) and landscape context, including the surrounding existing or proposed topography, urban environment (i.e. centres and density of built form), natural environment, landscape character and open space zones; (ii) Provides ~~appropriate~~ direct, efficient and high-quality***[Urban Design NoR 1 and NoR 2]*** walking and cycling ~~connectivity~~ connections ***[Urban Design NoR 1 and NoR 2]***to, and interfaces with, existing or proposed adjacent land uses, public transport infrastructure and walking and cycling connections; connections should be direct, legible and minimise the length of access ramps;***[Urban Design NoR 1 and NoR 2]*** (iii) ~~Promotes~~ Provides ***[Urban Design NoR 1 and NoR 2]***inclusive access ~~(where appropriate)~~***[Urban Design NoR 1 and NoR 2]***; and (iv) Promotes a sense of personal safety by aligning with best practice guidelines, such as: a. Crime Prevention Through Environmental Design (CPTED) principles; b. Safety in Design (SID) requirements; and c. Maintenance in Design (MID) requirements and anti-vandalism/anti-graffiti measures; and (v) has responded to matters identified through the Land Use Integration Process (Condition 3) (vi) Provides for or future proofs for future NIMT railway track capacity; ***[Transport NoR 1 and NoR 2]*** (vii) Provides for safe and direct pedestrian and cycle access to Takanini Station; ***[Transport NoR 1]*** (viii) Addresses temporary traffic and transport effects of the Project on the safe and efficient operation of the transport network where the Project is implemented in stages.***[Transport NoR 1]*** (g) The ULDMP(s) shall include: (i) A concept plan – which depicts the overall landscape and urban design concept, and explain the rationale for the landscape and urban design proposals; (ii) Developed design concepts, including principles for walking and cycling facilities and public transport; and (iii) Landscape and urban design details – that cover the following:

NoR No.	No.	Condition
		a. Road design – elements such as intersection form, carriageway gradient and associated earthworks contouring including cut and fill batters and the interface with adjacent land uses and existing roads (including slip lanes), benching, spoil disposal sites, median width and treatment, roadside width and treatment; b. Roadside elements – such as lighting, fencing, wayfinding and signage; c. architectural and landscape treatment of all major structures, including bridges and retaining walls; d. Architectural and landscape treatment of noise barriers; e. Landscape treatment of permanent stormwater control wetlands and swales; f. Integration of passenger transport; g. Pedestrian and cycle facilities including paths, road crossings and dedicated pedestrian/ cycle bridges or underpasses~~;~~. The design must also take into account, and not preclude, future walking and cycling connections such as between Takaanini Reserve and the Takaanini Railway Station, and between Walters Road and Tironui Station Road East/West;***[Parks Planning NoR 1 and NoR 2]*** h. Re-instatement of construction and site compound areas, driveways, accessways and fences. i. Re-instatement of and enhancement of parks and open space in liaison with stakeholders. ***[Parks Planning NoR 1 and NoR 2]*** j. Interfaces – how the interface and edge treatment with adjoining properties has been treated. ***[Landscape NoR 1 and NoR 2]*** k. Off-street parking required to be reinstated to meet operational and resource consenting requirements in consultation with landowners/occupiers.***[Transport NoR 1 and NoR 2]*** l. On-street parking required to be reinstated, where appropriate, taking into account adjacent land uses, safety, and operational requirements. ***[Transport NoR 1 and NoR 2]*** (h) The ULDMP shall also include the following planting details and maintenance requirements: (i) planting design details including: a. Identification of existing trees and vegetation that will be retained with reference to the Tree Management Plan. Where practicable, mature trees and native vegetation should be retained; b. Street trees, shrubs and ground cover suitable for the location; c. treatment of fill slopes to integrate with adjacent land use, streams, Riparian margins and open space zones; d. planting of stormwater wetlands; e. Identification of vegetation to be retained and any planting requirements under the Tree Management Plan (Condition 23); f. Integration of any planting requirements required by conditions of any resource consents for the project; and g. Re-instatement planting of construction and site compound areas as appropriate. (ii) A planting programme including the staging of planting in relation to the construction programme which shall, as far as practicable, include provision for planting within each planting season following completion of works in each Stage of Work; and (iii) Detailed specifications relating to the following:

NoR No.	No.	Condition
		a. Weed control and clearance; b. Pest animal management (to support plant establishment); c. Ground preparation (top soiling and decompaction); d. Mulching; and e. Plant sourcing and planting, including hydroseeding and grassing, and use of eco-sourced species. (i) The following specific design requirements shall apply to address effects of the project: (i) The design shall demonstrate how effects on the operation of the Takanini Interchange and operation of Great South Road including congestion and delays for vehicles travelling to the SH1 Motorway are managed.***[Transport NoR 1]*** (ii) A preliminary design safe system design audit and Road Safety Audit shall be undertaken to determine measures required to address safety risks associated with the movement of heavy vehicles from Spartan Road properties west of the railway line to travel north of Great South Road from Spartan Road and to the northbound on-ramp at the SH1 Takanini Interchange. Appropriate mitigation measures shall be implemented to manage the safety effects; these could include measures to allow a U-turn movement on Great South Road or modifications to the Spartan Road / Great South Road intersection.***[Transport NoR 1]*** (iii) Spartan Road / Oakleigh Avenue intersection: Measures to manage the safe and efficient operation of the intersection with changes in turning movements due to closure of Spartan Road.***[Transport NoR 1]*** (v) Manuroa Road and Spartan Road: Active mode connections shall be designed to be attractive, direct and minimise walk/cycle distance to maximise accessibility across the railway line.***[Transport NoR 1]*** (vi) Taka Street: Wayfinding signage for pedestrians/cyclists and for motorists shall be provided to the community facility located at 8 Takanini Road.***[Transport NoR 1]*** ~~**Advice Note:**~~ ~~*This designation is for the purpose of construction, operation and maintenance of an arterial transport corridor and it is not for the specific purpose of "road widening". Therefore, it is not intended that the front yard definition in the Auckland Unitary Plan which applies a set back from a designation for road widening purposes applies to this designation. A set back is not required to manage effects between the designation boundary and any proposed adjacent sites or lots.*~~ ***[Planning NoR 1 and NoR 2]***
Specific Outline Plan Requirements		
NoRs 1 and 2		**Flood Hazard** For the purpose of Condition 13: (a) ARI – means Average Recurrence Interval (b) AEP – means Annual Exceedance Probability (c) Existing authorised habitable floor – means the floor level of any room (floor) in a residential building which is authorised and exists at the time the outline plan is submitted, excluding a laundry, bathroom, toilet or any room used solely as an entrance hall, passageway or garage.

NoR No.	No.	Condition
		(d) Flood prone area – means a potential ponding area that relies on a single culvert for drainage and does not have an overland flow path. (e) Maximum Probable Development – is the design case for consideration of future flows allowing for development within a catchment that takes into account the maximum impervious surface limits of the current zone or if the land is zoned Future Urban in the AUP, the probable level of development arising from zone changes. (f) Pre-Project development – means existing site condition prior to the Project (including existing buildings and roadways). (g) Post-Project development – means site condition after the Project has been completed (including existing and new buildings and roadways).
NoRs 1 and 2	**13.**	**Flood Hazard** (a) The Project shall be designed to achieve the following flood risk outcomes: (i) no increase in flood levels in a 1% AEP event for existing authorised habitable community, commercial, industrial floors that are already subject to flooding ~~or have a freeboard less than 150mm~~***[Flood Hazard and Stormwater NoR 1 and NoR 2]***; ~~(ii) no more than a 10% reduction in freeboard in a 1% AEP event for existing authorised habitable floors with a freeboard over 150mm;~~***[Flood Hazard and Stormwater NoR 1 and NoR 2]*** ~~(iii) no increase in 1% AEP flood levels for existing authorised community, commercial, industrial and network utility building floors that are already subject to flooding;~~***[Flood Hazard and Stormwater NoR 1 and NoR 2]*** ~~(iv) no more than a 10% reduction in freeboard in a 1% AEP event for existing authorised community, commercial, industrial and network utility building floors;~~***[Flood Hazard and Stormwater NoR 1 and NoR 2]*** (ii) Maintain the minimum freeboard requirement as set out in the Auckland Code of Practice for Land Development for Subdivision Chapter 4: Stormwater Version 3.0, January 2022 or any update or replacement of that Code;***[Flood Hazard and Stormwater NoR 1 and NoR 2]*** ~~(v)~~(iii) ~~no increase of more than 50mm in flood level in a 1% AEP event on land zoned for urban or future urban development where there is no existing dwelling; and~~ no increase in flood plain extent unless a site-specific flood assessment is provided with the Outline Plan that demonstrates there is no reduction in developable land in an urban zone or the Future Urban Zone***[Flood Hazard and Stormwater NoR 1 and NoR 2]*** (iv) new overland flow paths shall be diverted away from habitable floors and discharge to a suitable location with no increase in flood levels in a 1% AEP event downstream;***[Flood Hazard and Stormwater NoR 1 and NoR 2]*** (v) no loss in conveyance capacity or change in alignment of existing overland flow paths, unless provided by other means;***[Flood Hazard and Stormwater NoR 1 and NoR 2]*** (vi) no new flood prone areas; and (vii) no ~~more than a 10% average increase~~ detrimental change of flood ~~hazard (defined as flow depth times velocity)~~ classification for main vehicle and pedestrian access to authorised habitable dwellings existing at time the Outline Plan is submitted. The assessment of flood hazard shall be undertaken for the 10% and 1% AEP rainfall events.***[Flood Hazard and Stormwater NoR 1 and NoR 2]*** (b) Compliance with this condition (a) above shall be demonstrated in the Outline Plan developed in accordance with the Auckland Council Healthy Waters (or its

NoR No.	No.	Condition
		equivalent), which shall include flood modelling of the pre-Project and post-Project ~~100 year ARI~~ 10% and 1% AEP flood levels (for Maximum Probable Development land use and including climate change).***[Flood Hazard and Stormwater NoR 1 and NoR 2]*** (c) Where the above outcomes can be achieved through alternative measures outside of the designation such as flood stop banks, flood walls, raising existing authorised habitable floor level and new overland flow paths or varied through agreement with the relevant landowner, the Outline Plan shall include confirmation that any necessary landowner and statutory approvals have been obtained for that work or alternative outcome.
NoRs 1 and 2	**14.**	**Existing property access** Prior to submission of the Outline Plan, consultation shall be undertaken with landowners, occupiers, and tenants***[Transport NoR 1 and NoR 2]*** whose vehicle access to their property will be altered by the project~~.~~, and with Auckland Council Community Facilities for any parks or reserves that will have access restricted.***[Parks Planning NoR 1 and NoR 2]*** The Outline Plan shall demonstrate how safe reconfigured or alternate access will be provided, unless otherwise agreed with the landowner.
Construction Conditions		
NoRs 1 and 2	**15.**	**Construction Environmental Management Plan (CEMP)** (a) A CEMP shall be prepared prior to the Start of Construction for a Stage of Work. The objective of the CEMP is to set out the management procedures and construction methods to be undertaken to, avoid, remedy or mitigate any adverse effects associated with Construction Works as far as practicable. To achieve the objective, the CEMP shall include: (i) the roles and responsibilities of staff and contractors; (ii) details of the site or project manager and the Project Liaison Person, including their contact details (phone and email address); (iii) the Construction Works programmes and the staging approach, and the proposed hours of work; (iv) Development of the Good Neighbour Policy including a schedule for educating construction workers on expectations associated with ensuring that the surrounding community (landowners, occupiers, businesses, and social organisations) feel safe and respected;***[Social Impact NoR 1 and NoR 2]*** ~~(iv)~~(v) details of the proposed construction yards including temporary screening when adjacent to residential areas, locations of refuelling activities and construction lighting;***[Social Impact NoR 1 and NoR 2]*** ~~(v)~~(vi) methods for controlling dust and the removal of debris and demolition of construction materials from public roads or places; ***[Social Impact NoR 1 and NoR 2]*** ~~(vi)~~(vii) methods for providing for the health and safety of the general public; ***[Social Impact NoR 1 and NoR 2]*** ~~(vii)~~(viii) measures to mitigate flood hazard effects such as siting stockpiles out of floodplains, minimising obstructions to flood flows, actions to respond to warnings of heavy rain;***[Social Impact NoR 1 and NoR 2]*** ~~(viii)~~(ix) procedures for incident management;***[Social Impact NoR 1 and NoR 2]*** ~~(ix)~~(x) procedures for the refuelling and maintenance of plant and equipment to avoid discharges of fuels or lubricants to Watercourses;***[Social Impact NoR 1 and NoR 2]***

NoR No.	No.	Condition
		~~(x)~~(xi) measures to address the storage of fuels, lubricants, hazardous and/or dangerous materials, along with contingency procedures to address emergency spill response(s) and clean up;***[Social Impact NoR 1 and NoR 2]*** ~~(xi)~~(xii) procedures for responding to complaints about Construction Works; and***[Social Impact NoR 1 and NoR 2]*** ~~(xii)~~(xiii) methods for amending and updating the CEMP as required.***[Social Impact NoR 1 and NoR 2]***
NoRs 1 and 2	**16.**	**Complaints Register** (a) At all times during Construction Works, a record of any complaints received about the Construction Works shall be maintained. The record shall include: (i) The date, time and nature of the complaint; (ii) The name, phone number and address of the complainant (unless the complainant wishes to remain anonymous); (iii) Measures taken to respond to the complaint (including a record of the response provided to the complainant) or confirmation of no action if deemed appropriate; (iv) The outcome of the investigation into the complaint; (v) Any other activities in the area, unrelated to the Project that may have contributed to the complaint, such as non-project construction, fires, traffic accidents or unusually dusty conditions generally. (b) A copy of the Complaints Register required by this condition shall be made available to the Manager upon request as soon as practicable after the request is made.
NoRs 1 and 2	**17.**	**Cultural Monitoring Plan** (a) Prior to the start of Construction Works, a Cultural Monitoring Plan shall be prepared by a Suitably Qualified Person(s) identified in collaboration with Mana Whenua. The objective of the Cultural Monitoring Plan is to identify methods for undertaking cultural monitoring to assist with management of any cultural effects during Construction works. The Cultural Monitoring Plan shall include: (i) Requirements for formal dedication or cultural interpretation to be undertaken prior to start of Construction Works in areas identified as having significance to Mana Whenua; (ii) Requirements and protocols for cultural inductions for contractors and subcontractors; (iii) Identification of activities, sites and areas where cultural monitoring is required during particular Construction Works; (iv) Identification of personnel to undertake cultural monitoring, including any geographic definition of their responsibilities; and (v) Details of personnel to assist with management of any cultural effects identified during cultural monitoring, including implementation of the Accidental Discovery Protocol (b) If Enabling Works involving soil disturbance are undertaken prior to the start of Construction Works, an Enabling Works Cultural Monitoring Plan shall be prepared by a Suitably Qualified Person identified in collaboration with Mana Whenua. This plan may be prepared as a standalone Enabling Works Cultural Monitoring Plan or be included in the main Construction Works Cultural Monitoring Plan.

NoR No.	No.	Condition
		Advice Note: *Where appropriate, the Cultural Monitoring Plan shall align with the requirements of other conditions of the designation and resource consents for the Project which require monitoring during Construction Works.*
		Accidental Discoveries ***Advice Note:*** *The Requiring Authority is advised of the requirements of Rule E11.6.1 of the AUP for "Accidental Discovery" as they relate to both contaminated soils and heritage items.* *The requirements for accidental discoveries of heritage items are set out in Rule E11.6.1 of the AUP.*
NoRs 1 and 2	**18.**	**Construction Traffic Management Plan (CTMP)** (a) A CTMP shall be prepared by a Suitably Qualified Person taking into account comments from key stakeholders (in accordance with Condition 8(iv) Management Plans) ***[Transport NoR 1 and NoR 2]***prior to the Start of Construction for a Stage of Work. The objective of the CTMP is to avoid, remedy or mitigate, as far as practicable, adverse construction traffic effects. To achieve this objective, the CTMP shall include: (i) methods to manage the effects of temporary traffic management activities on traffic; including on the parallel road crossings over the NIMT between Spartan Road and Subway Road.***[Transport NoR 1 and NoR 2]*** (ii) measures to ensure the safety of all transport users; (iii) the estimated numbers, frequencies, routes and timing of traffic movements, including any specific non-working or non-movement hours to manage vehicular and pedestrian traffic near schools or to manage traffic congestion; (iv) site access routes and access points for heavy vehicles, the size and location of parking areas for plant, construction vehicles and the vehicles of workers and visitors; (v) identification of detour routes and other methods to ensure the safe management and maintenance of traffic flows~~, including pedestrians and cyclists;~~***[Transport NoR 1 and NoR 2]*** (v-A) Identification of alternative routes or management measures for pedestrians and cyclists to ensure direct, safe, and efficient movement of active modes.***[Transport NoR 1 and NoR 2]*** (vi) methods to maintain access to property (including Takanini Town Centre (30 Walters Road))***[Transport NoR 2]***,parks and reserves, ***[Parks Planning NoR 1 and NoR 2]*** and/or private roads for pedestrians and vehicles***[Development Engineering NoR 1 and NoR 2]*** where practicable, or to provide alternative access arrangements when it will not be; (vi-A) methods to manage parking related to construction activities (including construction workers) to mitigate effects on the safe and efficient operation of surrounding roads;***[Transport NoR 1 and NoR 2]*** (vi-B) methods to minimise the number and duration that any car parks within Takanini Town Centre (30 Walters Road) will be removed, to the extent possible;***[Transport NoR 2]*** (vii) the management approach to loads on heavy vehicles, including covering loads of fine material, the use of wheel-wash facilities at site exit points and the timely removal of any material deposited or spilled on public roads;

NoR No.	No.	Condition
		(viii) methods that will be undertaken to communicate traffic management measures to affected road users (e.g. residents/public/stakeholders/emergency services); (ix) Auditing, monitoring and reporting requirements relating to traffic management activities shall be undertaken in accordance with the New Zealand Guide to Temporary Traffic Management or any subsequent version; (x) details of minimum network performance parameters during the construction phase, including any measures to monitor compliance with the performance parameters; and (xi) details of any measures proposed to be implemented in the event thresholds identified in (x) being exceeded. (b) The construction of the works at each of Spartan Road, Manuia Road, Manuroa Road and Taka Street shall be coordinated to mitigate the traffic and transport effects on the transport network. These works should ensure: (i) A suitable alternative to facilitate traffic, pedestrian and cyclist movement is provided for the closure of Spartan Road or Manuroa Road level crossings such as constructing Manuia Road bridge. i.e., Spartan Road and Manuroa Road level crossings will not be closed until Manuia Road grade-separated bridge is constructed; (ii) A suitable alternative to facilitate traffic, pedestrian and cyclist movement should be provided for the closure of Taka Street level crossing during construction. This could mean the following: (a) Partial closure (provide a temporary road); and/or (b) Reroute traffic to an alternative connection such as Manuroa Road (iii) In planning the sequencing of works and the timing of closures of works, community engagement shall be undertaken xxx months prior to commencing works.***[Transport NoR 1]*** (c) A preliminary design safe system design audit and Road Safety Audit shall be undertaken to determine measures required to address safety risks associated with the movement of heavy vehicles from Spartan Road properties west of the railway line to travel north of Great South Road from Spartan Road and to the northbound on-ramp at the SH1 Takanini Interchange. Appropriate mitigation measures shall be implemented to manage the safety effects; these could include measures to allow a U-turn movement on Great South Road or modifications to the Spartan Road / Great South Road intersection.***[Transport NoR 1]*** (b) A suitable alternative to facilitate traffic, pedestrian and cyclist movement should be provided for the closure of Walters Road level crossing during construction. This could mean undertaking offline construction or partial closure. If full closure of Walters Road is required for construction, then the following shall apply: Taka Street shall be open to traffic and with at least two of Spartan Road, Manuia Road bridge and Manuroa Road open to traffic. **Advice Note:** *Measures for pedestrians and cyclists should include means to provide safe and convenient access to Takanini Town Centre across the railway line.* ***[Transport NoR 2]***

<table>
<tr><th>NoR No.</th><th>No.</th><th>Condition</th></tr>
<tr><td>NoRs 1 and 2</td><td>19.</td><td>
Construction Noise Standards
(a) Construction noise shall be measured and assessed in accordance with NZS6803:1999 Acoustics – Construction Noise and shall comply with the noise standards set out in the following table as far as practicable:
Table 19.1: Construction noise standards
<table>
<tr><th>Day of week</th><th>Time period</th><th>$L_{Aeq(15min)}$</th><th>L_{AFmax}</th></tr>
<tr><td colspan="4">Occupied activity sensitive to noise</td></tr>
<tr><td>Weekday</td><td>0630h - 0730h
0730h - 1800h
1800h - 2000h
2000h - 0630h</td><td>55 dB
70 dB
65 dB
45 dB</td><td>75 dB
85 dB
80 dB
75 dB</td></tr>
<tr><td>Saturday</td><td>0630h - 0730h
0730h - 1800h
1800h - 2000h
2000h - 0630h</td><td>55 dB
70 dB
45 dB
45 dB</td><td>75 dB
85 dB
75 dB
75 dB</td></tr>
<tr><td>Sunday and Public Holidays</td><td>0630h - 0730h
0730h - 1800h
1800h - 2000h
2000h - 0630h</td><td>45 dB
55 dB
45 dB
45 dB</td><td>75 dB
85 dB
75 dB
75 dB</td></tr>
<tr><td colspan="4">Other occupied buildings</td></tr>
<tr><td>All</td><td>0730h – 1800h
1800h – 0730h</td><td>70 dB
75 dB</td><td></td></tr>
</table>
(b) Where compliance with the noise standards set out in Table 19.1 is not practicable, the methodology in Condition 22 shall apply.
</td></tr>
<tr><td>NoRs 1 and 2</td><td>20.</td><td>
Construction Vibration Standards
(a) Construction vibration shall be measured in accordance with ~~ISO 4866:2010 Mechanical vibration and shock – Vibration of fixed structures – Guidelines for the measurement of vibrations and evaluation of their effects on structures~~ DIN4150-3:1999[Acoustics Noise and Vibration NoR 1 and NoR 2] and shall comply with the vibration standards set out in the following table as far as practicable.
Table 20.1: Construction vibration criteria
<table>
<tr><th>Receiver</th><th>Details</th><th>Category A</th><th>Category B</th></tr>
<tr><td rowspan="2">Occupied Activities sensitive to noise</td><td>Night-time 2000h - 0630h</td><td>0.3mm/s ppv</td><td>2mm/s ppv</td></tr>
<tr><td>Daytime 0630h - 2000h</td><td>2mm/s ppv</td><td>5mm/s ppv</td></tr>
<tr><td>Other occupied buildings</td><td>Daytime 0630h - 2000h</td><td>2mm/s ppv</td><td>5mm/s ppv</td></tr>
<tr><td>All other buildings</td><td>At all other times</td><td colspan="2">Tables 1 and 3 of DIN4150-3:1999</td></tr>
</table>
</td></tr>
</table>

NoR No.	No.	Condition
		~~*Category A criteria adopted from Rule E25.6.30.1 of the AUP~~***[Acoustics Noise and Vibration NoR 1 and NoR 2]*** ~~**Category B criteria based on DIN 4150-3:1999 building damage criteria for daytime~~***[Acoustics Noise and Vibration NoR 1 and NoR 2]*** (b) Where compliance with the vibration standards set out in Table 20.1 is not practicable, the methodology in Condition 22 shall apply.
NoRs 1 and 2	**21.**	**Construction Noise and Vibration Management Plan (CNVMP)** (a) A CNVMP shall be prepared prior to the Start of Construction for a Stage of Work. (b) A CNVMP shall be implemented during the Stage of Work to which it relates. (c) The objective of the CNVMP is to provide a framework for the development and implementation of the Best Practicable Option for the management of construction noise and vibration effects to achieve the construction noise and vibration standards set out in Conditions 19 and 20 to the extent practicable. To achieve this objective, the CNVMP shall be prepared in accordance with Annex E2 of the New Zealand Standard NZS6803:1999 *'Acoustics – Construction Noise'* (NZS6803:1999) and shall as a minimum, address the following: (i) Description of the works and anticipated equipment/processes; (ii) Hours of operation, including times and days when construction activities would occur; (iii) The construction noise and vibration standards for the project; (iv) Identification of receivers where noise and vibration standards apply; (v) A hierarchy of management and mitigation options, including any requirements to limit night works and works during other sensitive times, including Sundays and public holidays as far practicable; (vi) Methods and frequency for monitoring and reporting on construction noise and vibration; (vii) Procedures for communication and engagement with nearby residents and stakeholders, including notification of proposed construction activities, the period of construction activities, and management of noise and vibration complaints. (viii) Contact details of the Project Liaison Person; (ix) Procedures for the regular training of the operators of construction equipment to minimise noise and vibration as well as expected construction site behaviours for all workers; (x) Procedures and requirements for the preparation of a Schedule to the CNVMP (Schedule) for those areas where compliance with the noise

NoR No.	No.	Condition
		(Condition 19) and/or vibration standards (Condition 20 Category B) will not be practicable. (xi) Identification of trigger levels for undertaking building condition surveys, which shall be Category B day time levels; (xii) Procedures and trigger levels for undertaking building condition surveys before and after works to determine whether any cosmetic or structural damage has occurred as a result of construction vibration. (xiii) Methodology and programme of desktop and field audits and inspections to be undertaken to ensure that CNVMP, Schedules and the best practicable option for management of effects are being implemented. (xiv) Requirements for review and update of the CNVMP
NoRs 1 and 2	**22.**	**Schedule to a CNVMP** (a) A Schedule to the CNVMP (Schedule) shall be prepared prior to the start of the construction to which it relates by a Suitably Qualified Person, in consultation with the owners and occupiers of sites subject to the Schedule, when: (i) Construction noise is either predicted or measured to exceed the noise standards in Condition 19, except where the exceedance of the L_{Aeq} criteria is no greater than 5 decibels and does not exceed: a. 0630 – 2000: 2 period of up to 2 consecutive weeks in any 2 months, or b. 2000 - 0630: 1 period of up to 2 consecutive nights in any 10 days. (ii) Construction vibration is either predicted or measured to exceed the Category B standard at the receivers in Condition 20. (b) The objective of the Schedule is to set out the Best Practicable Option measures to manage noise and/or vibration effects of the construction activity beyond those measures set out in the CNVMP. The Schedule shall include details such as: (i) Construction activity location, start and finish dates; (ii) The nearest neighbours to the construction activity; (iii) The predicted noise and/or vibration level for all receivers where the levels are predicted or measured to exceed the applicable standards and predicted duration of the exceedance; (iv) for works proposed between 2000h and 0630h, the reasons why the proposed works must be undertaken during these hours and why they cannot be practicably undertaken during the daytime; (v) The proposed mitigation options that have been selected, and the options that have been discounted as being impracticable and the reasons why; (vi) The consultation undertaken with owners and occupiers of sites subject to the Schedule, and how consultation has and has not been taken into account; and (vii) Location, times and types of monitoring; (c) The Schedule shall be submitted to the Manager for certification at least 5 working days (except in unforeseen circumstances) in advance of Construction Works that are covered by the scope of the Schedule and shall form part of the CNVMP.

NoR No.	No.	Condition
		(d) Where material changes are made to a Schedule required by this condition, the Requiring Authority shall consult the owners and/or occupiers of sites subject to the Schedule prior to submitting the amended Schedule to the Manager for certification in accordance with (c) above. The amended Schedule shall document the consultation undertaken with those owners and occupiers, and how consultation outcomes have and have not been taken into account.
NoRs 1 and 2	**23.**	**Tree Management Plan** (a) Prior to the Start of Construction for a Stage of Work, a Tree Management Plan shall be prepared. The objective of the Tree Management Plan is to avoid, remedy or mitigate effects of construction activities on trees identified in Schedule 3. (b) The Tree Management Plan shall: (i) confirm that the trees listed in Schedule 3 still exist; and (ii) demonstrate how the design and location of project works has avoided, remedied or mitigated any effects on any tree listed in Schedule 3. This may include: a. planting to replace trees that require removal (with reference to the ULDMP planting design details in Condition 12); b. tree protection zones and tree protection measures such as protective fencing, ground protection and physical protection of roots, trunks and branches; and c. methods for work within the rootzone of trees that are to be retained in line with accepted arboricultural standards. (iii) demonstrate how the tree management measures (outlined in A – C above) are consistent with conditions of any resource consents granted for the project in relation to managing construction effects on trees.
NoRs 1 and 2	**24.**	**Network Utility Management Plan (NUMP)** (a) A NUMP shall be prepared prior to the Start of Construction for a Stage of Work. (b) The objective of the NUMP is to set out a framework for protecting, relocating and working in proximity to existing network utilities. The NUMP shall include methods to: (i) Provide access for maintenance at all reasonable times, or emergency works at all times during construction activities; (ii) Manage the effects of dust and any other material potentially resulting from construction activities and able to cause material damage, beyond normal wear and tear to overhead transmission lines in the Project area; (iii) Demonstrate compliance with relevant standards and Codes of Practice including, where relevant, the NZECP 34:2001 New Zealand Electrical Code of Practice for Electrical Safe Distances 2001; AS/NZS 4853:2012 Electrical hazards on Metallic Pipelines; (c) The NUMP shall be prepared in consultation with the relevant Network Utility Operator(s) who have existing assets that are directly affected by the Project. (d) The development of the NUMP shall consider opportunities to coordinate future work programmes with other Network Utility Operator(s) during detailed design***[Development Engineering NoR 1 and NoR 2]*** where practicable. (e) The NUMP shall describe how any comments from the Network Utility Operator in relation to its assets have been addressed. (f) Any comments received from the Network Utility Operator shall be considered when finalising the NUMP. (g) Any amendments to the NUMP related to the assets of a Network Utility Operator shall be prepared in consultation with that asset owner.

NoR No.	No.	Condition
NoR 1 and NoR 2	**New**	**Network Utility Strategic Outcomes Plan (NUSOP)** a) A NUSOP shall be prepared in the project feasibility stage or as early as practicable. b) The objective of the NUSOP is to set out a strategic framework for asset resilience that includes consideration of growth, corridor protection, and asset renewals over time. c) The NUSOP shall: (i) consider expected asset life of existing assets; (ii) consider expected asset capacity increases or changes; and (iii) demonstrate how city and national strategic plans are considered. d) The NUSOP shall be prepared in consultation with the relevant Network Utility Operator(s) who have existing assets that are directly affected by the Project, including Watercare. e) The NUSOP shall describe how strategic plans from the Network Utility Operators in relation to its assets have been addressed. f) Any comments received from the Network Utility Operator shall be considered when finalising the NUSOP. g) Any amendments to the NUSOP related to the assets of a network.***[Development Engineering NoR 1 and NoR 2]***
NoR 1 and NoR 2	**New**	**Development Response Management Plan** (a) A DRMP shall be prepared prior to the Start of Construction for a Stage of Work. (b) The objective of the DRMP is to provide a framework and suite of strategies and measures in consultation with local business and community stakeholders that assist those directly affected by the Project (including directly affected and adjacent owners (e.g. businesses, community organisations, households, and their tenants) to manage the impacts of construction and to maximise the opportunities the Project presents. (c) Business Associations and Community groups representing businesses and residents within the relevant Stage of Work shall be invited no later than 18 months prior to the Start of Construction for a Stage of Work, to participate in the development of the DRMP. (d) To achieve the objective, the DRMP shall include: (i) A list of those likely to affected by the Project (ii) Recommended measures to mitigate impacts on those identified as affected by the Project associated with construction effects such as the potential loss of visibility of businesses from public spaces, reduction in accessibility and severance, loss of amenity, mental and physical health effects, and relocation. Such mitigation measures may include business support, business relocation, temporary placemaking and place activation measures and temporary wayfinding and signage, and mental health support and advice. (iii) Identification of opportunities to coordinate the forward work programme, where appropriate with infrastructure providers and development agencies. (iv) Recommended measures to mitigate effects on the operation and financial wellbeing of community organisations and sports clubs; (v) Recommended measures to mitigate the loss of community facilities, assets and open space based on stakeholder feedback during the SCEMP process, including, but not limited to, means for funding and implementing the mitigation. Mitigation that is not contingent on Construction Works being completed must be implemented prior to construction commencing.

NoR No.	No.	Condition
		(vi) Recommended measures to provide support for anxiety and mental health outcomes; (vii) Recommended hardship assistance package and hardship fund to be available for compensation to landowners, tenants, and adjacent property owners and details of how people will qualify for assistance. (viii) Recommended assistance for residential and business tenants, leaseholders or owners who are asked to move during the works. (ix) Measures to achieve positive social outcomes, which may include supply chain opportunities, education, training and employment opportunities including partnerships with local business associations and community organisations, and by working with local organisations repurposing and recycling of demolition materials. (x) Identification of any other development response measures designed to support those businesses, residents and community services/facilities affected during construction (xi) A record of the activities and assistance provided as a result of the measures listed in (ii)-(ix). (xii) Linkages and cross-references to communication and engagement methods set out in other conditions and management plans (e.g. the SCEMP) where relevant.***[Social Impact NoR 1 and NoR 2]***
NoR 1 and NoR 2	**New**	**Property Management Strategy** (a) The Requiring Authority shall prepare and submit to Council for Certification a PMS within 12 months of the date on which this designation is included in the AUP:OP. (b) Within 40 working days of receiving written notice of Certification of the PMS by Council, the Requiring Authority shall notify in writing all directly affected owners and occupiers that the PMS is available on the Project Information website or equivalent that is required under Condition 2. (c) The purpose of the Strategy is to set out how the Requiring Authority will ensure the properties acquired for the Takaanini Level Crossings Projects are appropriately managed so they do not deteriorate and adversely affect adjoining properties and the surrounding area. (d) The Strategy shall identify measures and methods to ensure the properties are managed in a manner that: (i) does not significantly change the character, intensity and scale of the effects of the existing use of the land; (ii) maintains the condition of the property at that which existed at the time of purchase by the Requiring Authority; (iii) Contributes to the functioning of the area within which the property is located; (iv) Maintains occupancy as far as reasonably practicable; and (v) Provides confidence to occupants, adjoining property owners, and the community that the properties are managed responsibly pending construction. ***[Social Impact NoR 1 and NoR 2]***
Operational Conditions		
NoRs 1 and 2	**25.**	**Low Noise Road Surface**

NoR No.	No.	Condition
		(a) Asphaltic concrete surfacing (or equivalent low noise road surface) shall be implemented within 12 months of Completion of Construction of the project. (b) The road surface shall be designed, implemented and maintained to be smooth and even to avoid adverse vibration generated from traffic passing over uneven surfaces.***[Acoustics Noise and Vibration NoR 1 and NoR 2]*** ~~(b)~~(c) Any future resurfacing works of the Project shall be undertaken in accordance with the Auckland Transport Reseal Guidelines, Asset Management and Systems 2013 and asphaltic concrete surfacing (or equivalent low noise road surface) shall be implemented ~~where~~: ~~(i) The volume of traffic exceeds 10,000 vehicles per day; or~~ ~~(ii) The road is subject to high wear and tear (such as cul de sac heads, roundabouts and main road intersections); or~~ ~~(iii) It is in an industrial or commercial area where there is a high concentration of truck traffic; or~~ ~~(iv) It is subject to high usage by pedestrians, such as town centres, hospitals, shopping centres and schools.~~***~~[Acoustics Noise and Vibration NoR 1 and NoR 2]~~*** ~~(c) Prior to commencing any future resurfacing works, the Requiring Authority shall advise the Manager if any of the triggers in Condition 25(c)(i) – (iv) are not met by the road or a section of it and therefore where the application of asphaltic concrete surfacing (or equivalent low noise road surface) is no longer required on the road or a section of it. Such advice shall also indicate when any resealing is to occur.~~***~~[Acoustics Noise and Vibration NoR 1 and NoR 2]~~***
NoRs 1 and 2		**Traffic Noise** (a) For the purposes of Conditions 26 to 37: (b) Building-Modification Mitigation – has the same meaning as in NZS 6806; (c) Design year has the same meaning as in NZS 6806; (d) Detailed Mitigation Options – means the fully detailed design of the Selected Mitigation Options, with all practical issues addressed; (e) Habitable Space – has the same meaning as in NZS 6806; (f) Identified Noise Criteria Category – means the Noise Criteria Category for a PPF identified in *Schedule 2: Identified PPFs Noise Criteria Categories*; (g) Mitigation – has the same meaning as in NZS 6806:2010 Acoustics – Road-traffic noise – New and altered roads; (h) Noise Criteria Categories – means the groups of preference for sound levels established in accordance with NZS 6806 when determining the Best Practicable Option for noise mitigation (i.e. Categories A, B and C); (i) NZS 6806 – means New Zealand Standard NZS 6806:2010 Acoustics – Road-traffic noise – New and altered roads; (j) Protected Premises and Facilities (PPFs) – means only the premises and facilities identified in blue ~~green, orange or red~~***[Acoustics Noise and Vibration NoR 1 and NoR 2]*** in *Schedule 2: PPFs Noise Criteria Categories*; (k) Selected Mitigation Options – means the preferred mitigation option resulting from a Best Practicable Option assessment undertaken in accordance with NZS 6806 taking into account any low noise road surface to be implemented in accordance with Condition 25; and (l) Structural Mitigation – has the same meaning as in NZS 6806. Notwithstanding the above applying to the PPFs in Schedule 2, conditions 26 to 37 shall be read as also including a requirement for the future BPO assessment to determine the BPO for the environment that is present prior to construction starting (in terms of road surface, barriers, or other source noise mitigation), noting that the Requiring Authority is not responsible for acoustically treating dwellings that are

NoR No.	No.	Condition
		constructed following the lodgement of the NoR.***[Acoustics Noise and Vibration NoR 1 and NoR 2]***
NoRs 1 and 2	**26.**	The Noise Criteria Categories identified in *Schedule 2: PPFs Noise Criteria Categories* at each of the PPFs shall be achieved where practicable and subject to Conditions 26 to 37 (all traffic noise conditions). The Noise Criteria Categories do not need to be complied with at a PPF where: (a) The PPF no longer exists; or (b) Agreement of the landowner has been obtained confirming that the Noise Criteria Category does not need to be met. Achievement of the Noise Criteria Categories for PPFs shall be by reference to a traffic forecast for a high growth scenario in a design year at least 10 years after the programmed opening of the Project.
NoRs 1 and 2	**27.**	As part of the detailed design of the Project, a Suitably Qualified Person shall determine the Selected Mitigation Options for the PPFs identified on *Schedule 2 PPFs Noise Criteria Categories.* For the avoidance of doubt, the low noise road surface implemented in accordance with Condition 25 may be (or be part of) the Selected Mitigation Options(s).
NoRs 1 and 2	**28.**	Prior to construction of the Project, a Suitably Qualified Person shall develop the Detailed Mitigation Options for the PPFs identified in *Schedule 2 PPFs Noise Criteria Categories*, taking into account the Selected Mitigation Options.
NoRs 1 and 2	**29.**	If the Detailed Mitigation Options would result in the Identified Noise Criteria Category changing to a less stringent Category, e.g. from Category A to B or Category B to C, at any relevant PPF, a Suitably Qualified Person shall provide confirmation to the Manager that the Detailed Mitigation Option would be consistent with adopting the Best Practicable Option in accordance with NZS 6806 prior to implementation.
NoRs 1 and 2	**30.**	The Detailed Mitigation Options shall be implemented prior to completion of construction of the Project, with the exception of any low-noise road surfaces, which shall be implemented within twelve months of completion of construction.
NoRs 1 and 2	**31.**	Prior to the Start of Construction, a Suitably Qualified Person shall identify those PPFs which, following implementation of all the Detailed Mitigation Options, will not be Noise Criteria Categories A or B and where Building-Modification Mitigation might be required to achieve 40 dB $L_{Aeq(24h)}$ inside Habitable Spaces ('Category C Buildings').
NoRs 1 and 2	**32.**	Prior to the Start of Construction in the vicinity of each Category C Building, the Requiring Authority shall write to the owner of the Category C Building requesting entry to assess the noise reduction performance of the existing building envelope. If the building owner agrees to entry within three months of the date of the Requiring Authority's letter, the Requiring Authority shall instruct a Suitably Qualified Person to visit the building and assess the noise reduction performance of the existing building envelope.
NoRs 1 and 2	**33.**	For each Category C Building identified, the Requiring Authority is deemed to have complied with Condition 32 above if: (a) The Requiring Authority's Suitably Qualified Person has visited the building and assessed the noise reduction performance of the building envelope; or (b) The building owner agreed to entry, but the Requiring Authority could not gain entry for some reason (such as entry denied by a tenant); or (c) The building owner did not agree to entry within three months of the date of the Requiring Authority's letter sent in accordance with Condition 32 above (including where the owner did not respond within that period); or

NoR No.	No.	Condition
		(d) The building owner cannot, after reasonable enquiry, be found prior to completion of construction of the Project. If any of (b) to (d) above apply to a Category C Building, the Requiring Authority is not required to implement Building-Modification Mitigation to that building.
NoRs 1 and 2	**34.**	Subject to Condition 33 above, within six months of the assessment undertaken in accordance with Conditions 32 and 33, the Requiring Authority shall write to the owner of each Category C Building advising: (a) If Building-Modification Mitigation is required to achieve 40 dB LAeq(24h) inside habitable spaces; and (b) The options available for Building-Modification Mitigation to the building, if required; and (c) That the owner has three months to decide whether to accept Building-Modification Mitigation to the building and to advise which option for Building-Modification Mitigation the owner prefers, if the Requiring Authority has advised that more than one option is available.
NoRs 1 and 2	**35.**	Once an agreement on Building-Modification Mitigation is reached between the Requiring Authority and the owner of a Category C Building, the mitigation shall be implemented, including any third party authorisations required, in a reasonable and practical timeframe agreed between the Requiring Authority and the owner.
NoRs 1 and 2	**36.**	Subject to Condition 33, where Building-Modification Mitigation is required, the Requiring Authority is deemed to have complied with Condition 35 if: (a) The Requiring Authority has completed Building Modification Mitigation to the building; or (b) An alternative agreement for mitigation is reached between the Requiring Authority and the building owner; or (c) The building owner did not accept the Requiring Authority's offer to implement Building-Modification Mitigation within three months of the date of the Requiring Authority's letter sent in accordance with Condition 33 (including where the owner did not respond within that period); or (d) The building owner cannot, after reasonable enquiry, be found prior to completion of construction of the Project.
NoR 1 and 2	**37.**	The Detailed Mitigation Options shall be maintained so they retain their noise reduction performance as far as practicable
NoR 1 and NoR 2	**New**	**Ecology** **Advice Note:** *Depending on the potential effects of the Project, the regional consents for the Project may include the following monitoring and management plans:* *(i) Stream and/or wetland restoration plans;* *(ii) Vegetation restoration plans; and* *(iii) Fauna management plans (e.g., avifauna, bats).**[Ecology NoR 1 and NoR 2]***
NoR 1 and NoR 2	**New**	**Geotechnical Hazards** Potential adverse geotechnical effects on neighbouring properties shall be addressed as part of the detailed design for the Outline Plan (or Plans) for the proposed TLC works. The Outline Plan(s) shall show design measures to avoid, remedy, or mitigate any adverse geotechnical effects on the environment. Compliance with this condition shall be demonstrated in the Outline Plan(s).***[Geotechnical NoR 1 and NoR 2]***

NoR No.	No.	Condition

[new schedule] Schedule of properties significantly affected by transport construction and operation effects *[Transport NoR 1 and NoR 2]*

NoR	Property	Effects to be Addressed	
		Construction	Operation
NoR 1	1-15 Spartan Road	Effect on movement of heavy vehicles to the wider network, in particular, to SH1 northbound and to Great South Road northbound. Effect on operation of site, including effect on truck and car parking.	Effect on movement of heavy vehicles to the wider network, in particular, to SH1 northbound and to Great South Road northbound. Effect on operation of site, including effect on truck and car parking.
NoR 1	18 Manuroa Road	Effect on access.	Removal of on-site car parking and ability for safe drop off and pick up facilities for caregivers.
NoR 1	9-13 Taka Street	Effect on car parking. Effect on vehicle access from Taka Street including for staff, visitors, and emergency vehicles.	Effect on car parking. Effect on vehicle access from Taka Street including for staff, visitors, and emergency vehicles.
NoR 1	166-168 Great South Road	Effect on site operation (including site infrastructure) due to land required for construction. Effect on safety and general site operation due to provision of access to 7 and 9-13 Taka Street via 166-168 Great South Road.	Effect on site operation (including site infrastructure) due to land required for operation (including South FTN NoR 1). Effect on safety and general site operation due to provision of access to 7 and 9-13 Taka Street via 166-168 Great South Road.
NoR 2	12 Walters Road	Effect on site access and operation due to land required for construction.	Effect on site access and operation due to land required for operation.
NoR 2	Takanini Town Centre	Effect on general vehicle access and servicing	Mechanisms to enable the provision of pedestrian (and

NoR	Property	Effects to be Addressed	
		access during construction with any closure of Walters Road access to Town Centre or closure of Walters Road. Effect on car parking along Walters Road frontage within the town centre due to construction.	cycle) access to Takanini Town Centre from Walters Road.

Schedule 1: General accordance plans and information

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Concept Plan:

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